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ABSTRACT

Local school districts must strengthen their innovative capacity in order to respond effectively to the problems facing them. Success depends on both an organization's technical capacity to match problems with appropriate solutions and its political capacity to move an innovation through the process from adoption to incorporation. Research shows that the organization's ability to build a winning coalition, providing enough support to sustain the innovation against opposition, is crucial. An examination of several attempts at innovation over more than a decade in the school districts of Syracuse and Rochester in New York tested the nature of the coalitions involved, investigating their formation, operations, and effect on subsequent decision-making. This document summarizes and analyzes the results of this extensive study, involving a number of separate, but related, case histories. The analysis leads to conclusions concerning the local educational organization as an innovative mechanism, bureaucratic entrepreneurship and coalition-building within education, the applicability of the research team's decision-making model to education, the comparison of educational innovation in Syracuse and Rochester, and the residual effects of innovation and coalition-building. (Author/PGD)

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EDUCATIONAL INNOVATION AS A PROCESS OF COALITION-BUILDING: A STUDY OF ORGANIZATIONAL DECISION-MAKING

Volume I: Analysis and Conclusions

Report
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I. INTRODUCTION

The Issue in Educational Organizations

For the past two decades, American educational institutions, particularly elementary and secondary school systems, have been experiencing a period of intense turbulence. Much of this turbulence can be traced to various internal and external problems and opportunities affecting the educational system. These problems/opportunities include demands by teachers for higher salaries and better working conditions, calls for accountability by parents and taxpayers, decline in student enrollment, pressures due to budget constraints, requirements for response to the passage of landmark educational and social welfare legislation, the need to implement key court decisions on civil rights, and enticements of federal funds to introduce experimental and novel programs.[1] All of these issues have tested the ability of local school organizations to adapt and change. In attempting to do so, school organizations have frequently sought to adopt and use innovations in the forms of hardware, managerial techniques, and novel educational methods.

The proposed study addresses questions pertaining to the organizational capacity of school organizations to innovate in response to the various problems facing them. The organization in this context is the school district as a whole rather than an individual school or classroom. The capacity of a school district, as an organization, to innovate is an especially critical concern in view of the increasing demands facing it. Yet there is no shortage of literature suggesting that educational institutions cannot innovate, or are poorly designed to innovate.[2] Similarly, there is much evidence suggesting that many educational innovations adopted and used for a time failed to be incorporated into the routine of educational practice.[3] While the picture of educational innovation is probably not as bleak as the above statements suggest, there is little doubt that educational organizations must strengthen their innovative capacity in order to best respond to the problems facing them. To do so requires understanding what new techniques, methods, and hardware are appropriate and how such innovations can be fully implemented and routinized. This capability entails organizational problem-solving and the capacity to innovate. What is the nature of this capacity? How is it manifested? What are its dynamics? Is it issue-specific? Or is there a general organizational capacity that can be learned and possibly strengthened to ease the way for various innovations?

At present, the existing literature provides only partial answers to such questions. The educational innovation literature has focused primarily on the early stages of the innovation process. Ronald

Havelock offers a guide to the process of innovation for teachers and administrators. A field study by Neal Gross points out the need for more studies on the implementation process. Clark and Guba concentrate on the early stages leading to adoption. From this body of work, we have identified a gap in existing theory on the later stages of the educational innovation process and its residual effects. The work that has been done has value, but it must be used primarily as a base upon which to build. More research is needed to arrive at the answers to the questions posed above, for the answers have enormous policy implications for local school organizations, as well as for federal and state educational bodies. Addressing such questions begins with the systematic gathering of data from a few school organizations in order to better comprehend the key variables in the organizational capacity to innovate within education. From such an effort, a broader and deeper base of knowledge can be built, a base from which later steps in the theory-building process can start.[4]

Our research looks at the capacity to innovate from the standpoint of organizational coalition-building. Organizational capacity is defined as having two aspects. One is the "technical" capacity to match an organizational problem with an appropriate innovative solution. The other is the "political" capacity to move an innovation through the various stages: adoption, trial implementation, and incorporation. Many decisions are involved, but what moves the process toward successful conclusion, in the sense of an institutionalized innovation, is organizational capacity to build a "winning" coalition, i.e., enough support to sustain the innovation against opposition.[5]

As we use the term, "coalition" has a political connotation. The process of coalition-building is political. It involves the formation of an alliance of interests. What is being built is a system of leverage (power) for adoption and implementation. The concept of coalition in nearly all of the political science literature refers to predicting coalition formation among political parties in parliamentary democracies. Most of this literature focuses on "game theory" in which rational actors pursue strategies allowing them to gain a share of control of some decision. Actors seek admittance to a "winning coalition" with the object of a personal "payoff."[6] Our use of the coalition concept differs. First, the actors in the educational innovation process constitute a much more diverse group than legislators. Second, the actors may be from different large organizations. Third, the concept of "payoff" utilized in game theory is vague and ambiguous. Our work has concentrated on specifying the participation requirements of winning coalitions, based not on the notion of maximum payoff but rather on policy agreement. Further, we seek to determine how winning coalitions are maintained and how the membership mix within the coalition is changed in the various stages of the innovation process. A coalition is a coming together of relatively autonomous entities (i.e., actors or organizations) behind a common goal, in this case educational innovation. It occurs "when two or more organizations pool a share of their resources," as Roland Warren states.[7] Our research is directed toward understanding the nature and dynamics of such coalitions in the

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formulation and implementation of educational innovations that are of significance to the school district.

Our project builds upon work that we performed for the National Science Foundation (NSF).[8] The NSF project lay in the field of technology transfer to the city. We studied decisions by a variety of public agencies in Syracuse and Rochester, New York, to adopt and use, or to reject, various innovations. Some twenty case histories were prepared over a two-year period. The educational organizations of Syracuse and Rochester were among the local public organizations studied in our work. These cases aimed at exploring key variables affecting the capacity of local organizations to adopt, implement, and incorporate innovations. As indicated, we found the capacity to build coalitions of support around particular innovations to be critical to the success of the innovation. In particular, we found the concept of "bureaucracy-centered coalition"[9] applicable to most of our cases. It was not a single organization that innovated; it was a coalition that saw an innovation through to routinization. We found it helpful to derive from our work the notion of "bureaucratic entrepreneurs": key organizational leaders who provided a momentum behind their own and other organizations in an effort to achieve the successful utilization of an innovation.

Our educational cases in the NSF project featured a success (Rochester) and a failure (Syracuse). We studied two attempts to restructure educational facilities and programs incorporating a variety of innovative components. The Campus Plan in Syracuse was a large-scale, educational park concept that was not adopted. Project Unique, in Rochester, was a large-scale project incorporating the magnet school concept as well as various instructional technologies. The key variable distinguishing the two organizations represented in these cases was the capacity of the organizations to build coalitions. The problems that the two organizations faced were alike; the innovative solutions that they selected were programmatically similar. Where the organizations differed was in coalition strategy. Rochester, at the earliest stages of decision-making concerning its innovation, sought to build community support. Syracuse was much slower to make this attempt. In fact, the bureaucratic entrepreneur in Syracuse was candid in expressing his discomfort with the political aspects of his role as superintendent. He believed that education was "above politics." The merit of the educational park concept in Syracuse was obvious to professionals. Presumably, it should have sold itself to the mayor, city council, and various citizen groups. It did not, however.

An educational organization, like all public organizations, is accountable to a political environment. There may be some innovations that can be adopted and utilized through organizational processes purely internal to the educational organization. But most important innovations, certainly those that impact on the school system as a whole, require the assent of many actors in the local (and, increasingly, federal/state) environment to which an educational organization must be responsive. No less than other public organizations, educational institutions must consider their capacity to build coalitions of support. Their capacity to innovate becomes a function of their ability to mobilize and manage coalitions.

Our NSF work points up the importance of organizational coalitions and coalition-building, and suggests the strategies by which such coalitions are put together. It indicates that some coalitions may have strong "vertical" links to federal and state actors, while others may have "horizontal" links with local institutions and groups; and it points up how one type of coalition has an impact on the other.[10] Educational innovation coalitions may have commonalities with those of other local functions, or there may well be considerable differences. In this research, we concentrate more deeply on this one function of local government, coalition-building, in hopes of better understanding what those commonalities and divergencies are.

Our objective has been to probe more deeply the organizational decision-making processes of those school systems that we had already begun to study: namely, those in Syracuse and Rochester. Our approach has been to explore, from the standpoint of organizational coalition-building, a series of issues which presented problems/opportunities to school organizations over a span of ten to fifteen years. Thus, we have added a longitudinal dimension to our Syracuse-Rochester work in education. We have compared a number of innovation decisions made by Syracuse and Rochester educational organizations over a similar space of years. We have seen how various elements of a coalition come in and drop out during the course of a given innovation process and noted the extent to which some elements or coalitions last beyond a given decision process. Do ad hoc coalitions become lasting alliances? If so, do the residual effects of a previous decision process affect a new process by constraining the options of the educational organization? The price of support for one innovation decision can be leverage provided a coalition member over another decision process. Our longitudinal approach has provided insights that our NSF work, based on one issue faced by two organizations, could not. It suggests, as well, that coalition-building can have its costs.

Framework for Analysis

Bureaucracy-Centered Coalition

Our research examines the role of educational organizations in the process of coalition-building for innovation. The process occurs over time, and various decision stages can be isolated. Initially, it is important to grasp the structural dimension, in the sense of noting the actors who are likely to be involved in a given educational innovation process.

In our NSF study, we found that the number of actors involved in any particular innovation issue depended considerably upon the nature of the innovation in question. Such variables as the scale, cost, controversiality, and perceived impact of the innovation, and the type of technology--hardware vs. software--determined, to a large extent, the size and scope of the coalition needed. In some of the cases that we studied, the coalitions were strictly internal (i.e., only individuals within the innovating organization participated in the adoption and use decisions). In most cases, the coalitions reached beyond the innovating organization and involved numerous other actors in the environment.

Some organizations, more than others, appeared to be dependent on organizations external to them for resources.[11] Certainly, education could not adopt the innovations that we studied then without funds from external sources and without the support of those most affected by the innovations. Because of the nature of the function, education is a particularly visible and thus vulnerable public service. A managerial innovation that might be ignored in one public organization (e.g., a reorganization or decentralization in the police department) can become a community-wide issue in education. This visibility and interorganizational dependence belies the apolitical stance that professional educators often take. They may be apolitical in a partisan sense, but there is certainly a politics of education which they cannot escape and which is brought to a head when educational organizations seek to innovate.

1. Roles in the Coalition

In our work for NSF, we posited "minimal winning coalitions" for innovations that were beyond a scale or level of importance to be purely of intraorganizational significance. These coalitions cocsisted of: adopters (local elected officials and top administrative leaders with the power to provide money or otherwise legitimate organizational decisions); implementers (individuals who actually carried out innovation policy decisions); clients (those outside the implementing organization affected by the decisions); and suppliers (manufacturers, consultants, or professional associations that provided new techniques and technologies). Another key role was that of entrepreneur. The entrepreneur brought the other members of the coalition together and served both as a catalyst and as a moving force. While any actor could play the role of entrepreneur, we found in most of our case histories that this role was played by the bureaucracy responsible for the particular function. Hence, we have spoken of "bureaucratic entrepreneurs" and "bureaucracy-centered coalitions." Together, these roles constituted a local innovation coalition. To get adoption and incorporation, such a coalition would have to be formed around a given innovation. State and federal actors were viewed as "external" forces that could be used by local entrepreneurs to help or hurt their coalition-building efforts.

The same role analysis is useful to the present study. The cases that we have examined confirm its utility for guiding research inquiry. Here we have carefully considered the specific actors that play these roles in the educational context. This is particularly important where the bureaucratic entrepreneur in education is concerned.

2. The Educational Entrepreneur

There appear to be certain attributes of educational organizations that set them apart from other public organizations and affect their capacity to play the entrepreneurial or coalition-building role. First, they are governed by a lay board whose members are elected independently. This means that the policy-making authority of the organization is plural, unlike other urban functions where the policy-making authority is singular, i.e., a chief elected official.[12] This circumstance may complicate the educational organization's own topside decision-making capacity and its ability to forge winning coalitions with actors in its environment.

Second, education has been called a "loosely coupled organization," in the sense of having many spheres of influence and arenas for decision-making.[13] To achieve consensus in decision-making may thus require a more complex intraorganizational process than is necessary in more centralized urban agencies. Such organizational attributes can lead to a multitude of innovative ideas requiring a decision by the top leadership of the educational bureaucracy and, in turn, lead to problems in implementing innovations.

Finally, there is an attribute of the educational function that relates to the attitudes of top administrative officials. As professionals, they are responsive to technical ideas of what is "best" for education. As administrators of highly visible organizations in which there is widespread and intense public interest, however, they must also keep in mind their broader public accountability. This dual concern with professional values and the requirements of compromise in a political environment can make for added problems where innovations requiring community-wide coalitions are at issue.[14]

Such special characteristics of educational organizations and the ways in which they influence the capacity of these organizations to play an entrepreneurial role are highlighted in our case studies of educational innovation in Syracuse and Rochester.

Building Coalitions: The Decision-Making Process Model

Our focus is on organizational decision-making within the educational innovation process. There are innumerable innovation-related decisions that are made within educational organizations. Some, however, are what might be called "strategic"[15] in that they affect the organizations as a whole and are made by the top management. In education, this means at least the top line officials, including the superintendent and members of the board of education. Often it means those top administrative policy officials in the educational organization and the leaders of key organizations in the environment of the educational unit. These decisions tend to cost more, disrupt more, and elicit greater intensity of outside interest. These are the innovations that not only test the educational organization's problem-solving and innovative ability, but also challenge its entrepreneurial and coalition-building capacities.

1. Awareness of Problem/Opportunity

Both in our own work and in the work of others, we have found that the first step in organizational decision-making is awareness of a problem or opportunity requiring a solution or response. This awareness may be summed up by Downs' notion of "performance gap." According to Downs,

> The concept of a performance gap is essential in explaining what causes bureaus to change. No bureau will alter its behavior patterns unless someone believes that a significant discrepancy exists between what it is doing and what it 'ought' to be doing.[16]

In our work we discovered in education an awareness of many performance gaps. This awareness surely was shared by individuals outside the organization. What triggers action is important; namely, a search for a solution. How do innovative solutions get to the top of an educational organization's agenda? They can come up through the ranks by an internal coalition-building process, or they can be forced to the top of an organization's agenda by external "triggers." In our work, we found both processes at work. Thus, the question naturally arises: do internally generated innovations reveal a different organizational process than those that are triggered externally? In education, there is no lack of participants both inside and outside the organization seeking to define particular problems and to place them on the agenda of top educational policy-makers.

2. Search for a Solution

The search for a solution to internally or externally generated problems or opportunities can involve a few individuals within an organization, or it can be highly participative and result in diverse input into the planning process. Our present cases exhibited these different kinds of search processes, varying from a relatively quick judgment by a few top executives to a long, drawn-out inquiry. It is not at all clear that the amount of time taken to decide on a solution bears any relationship to the desire by the proponents for an "ideal" result. However, the length of discussion is affected by the characteristics of the innovation, particularly those that determine the amount of opposition that a particular solution generates or is expected to generate.

There is a thin line between organizational search and organizational planning. Organizations that are aware of problems are usually also aware of possible solutions. Where highly professionalized organizations such as education are concerned, this observation is especially relevant.

Perhaps the most important factors in the search procedure are: who the searcher is, to whom he is listening, and the nature or perceived nature of the relationship between the two. Educational professionals usually have preferences, and often they have been talking with particular providers or users of solutions for some time. School administrators, in particular, are aware of the progressive trends in their profession and the innovations being demonstrated in other school districts.

What types of issues have a broad base of involvement in the search process? Which are self-contained within the organization? To what extent does a more participative search process make a difference in the ultimate choice of an innovation and the capacity to move that innovation toward adoption? It matters a great deal whether the search process includes individuals whose support can help to move the innovation through to incorporation. Hence, the conscious building of a coalition at this early stage may be a crucial factor in the success or failure of an innovation attempt. This expectation is underlined by Pressman and Wildavsky[17] who show that the lack of thought about the problems of implementation during the policy-formation stage generally leads to the demise of the most noble of policy plans.

3. Adoption

By adoption, we mean the allocation of scarce resources (financial and/or human) to acquire a new hardware technology or to deploy new managerial techniques in the delivery of educational services. In the present context, we are considering adoptions of innovations made at the level of the central school administration. The innovations are those intended to cope with such major problems as racial imbalance, declining school populations, school disruption and violence, handicapped education, financial constraints, and others.

Our cases reveal processes where adoption requires the building of organizational coalitions beyond that of the educational organization, instances in which the commitment of the central school administration is but one element in the coalition needed for adoption. Adoption may require the assent of political levels as well. To achieve such adoption requires organizational coalition-building in which the organization solicits the support of key groups in the community as a means toward political-level acceptance. In addition, nonlocal funding must often be acquired in order to obtain local funding.

What resources do educational organizations bring to winning adoption coalitions? One resource is the respect that professional expertise may provide.[18] But what if there is division in the ranks within the educational organization? Lack of internal cohesion on an innovative solution, especially when perceived by those outside the organization, weakens the capacity of the organization to build an adoption coalition. How does the central administration achieve such cohesion?

Another resource that educational organizations bring to winning adoption coalitions is the ability of the organization to identify constituencies (perhaps parent groups) that can exert pressure on political levels for allocations essential to adoption. The board of education is both an adopter and a vehicle of constituency-building. From an organizational standpoint (i.e., the central administration), boards are composed of lay people and, as such, have memberships in non-educational groups that can assert claims on political adopters.

The press can be a resource and an instrument to gain support for a particular innovative proposal that the educational organization wants. So also can be federal and state funding agencies. By building a vertical coalition intergovernmentally, innovative organizations can enhance their capacity to get an adoption.

Leadership is the most critical resource of all since it determines how well other resources are used. The key dimension of a leadership may well be how well, or even whether, central school administrators link appropriate coalition-building strategies with the designs of their technological or managerial solutions. The scale of some educational innovations that we studied was such as to require virtually a community-wide coalition for enactment. Other innovations were successfully adopted with participation from a much narrower coalition.

There are a series of strategies that appear to aid the organizational coalition-building process. Successful demonstrations of particular organizational solutions, for example, can help the innovating organization to acquire support. Unsuccessful demonstrations, naturally, can replace potential friends of a proposal with enemies. How do demonstration strategies and other strategies manifest themselves in various innovations within education?

4. Implementation

Just as adoption requires a coalition, so does implementation. However, the winning coalition for implementation can be quite different from that for adoption. As decision-making moves from "policy" to "administration," politicians become transient figures in the coalition; and suppliers, administrators (principals), employees (teachers), and clients (students, parents) become the dominant actors.

Implementation of educational innovation is not well researched. With the support of the U. S. Office of Education, Ronald Havelock has recently developed a guide to the innovation process for administrators and teachers.[19] He attempts to describe how successful innovation takes place and how "change agents" can organize their work so that successful innovation will result. Havelock defines an innovation as "any change which represents something new to the people being changed"; and his change agent acts in four primary ways: as catalyst, solution giver, process helper, and resource linker. The role of resource linker seems to be similar to our notion of entrepreneur. Havelock characterizes the stages of planned change as the following:

1. building a relationship;
2. diagnosis;
3. acquiring relevant resources;
4. choosing a solution;
5. gaining acceptance;
6. stabilizing the innovation and generating self-renewal.

The closest he comes to a notion such as coalition is the "change team," which may or may not include leaders or influentials from the client groups. In his approach, the change agent (or change team) appears to be the same throughout the process of innovation and attempts to mobilize resources and authority once the agent and client have decided on a solution (innovation). Much of Havelock's presentation uses a diagnostic/interventive approach popular with proponents of organizational development. There is no discussion of a coalition-type phenomenon or of several of the strategies which we have found in our NSF work on bureaucracy-centered innovations. Our experience shows that there may be several change agents in a coalition and/or a planning team. Other studies of planned educational change discuss the role of the "change agent" (often described as an outside helper or consultant) and the importance of participation. Both of these are important factors, but are they sufficient for innovation to occur? Our view is that they may be necessary elements of a winning coalition for the innovation's implementation. Gross and colleagues point out the lack of knowledge regarding the implementation of educational innovations. They see "the need to conceptualize the success or failure of the implementation of an innovation as a result of a set of interrelated forces that occur over a period of time after the innovation has been introduced." In Havelock's work, there is very little said about implementation or incorporation, other than the process of "creating a self-renewal capacity" in the client group.

In our NSF work and in our current work, we followed large-scale, educational innovations through the implementation process. In some cases, coalition members who had been involved in the process leading to adoption left the coalition as new members joined. New members can include employees, parents of students involved in the innovative programs, and other agencies and organizations in the community.

Bureaucratic entrepreneurs often face a different kind of resistance to change in the implementation phase as opposed to the adoption phase. Since educational organizations are so "loosely coupled,"[20] there are innumerable opportunities for sabotage of innovations. Indeed, education, more than most areas, may face critical problems in implementing innovations because of this lack of hierarchical control. Bureaucratic entrepreneurs may thus use several coalition strategies to implement innovations: reassuring employees and clients, appealing to outside groups or officials, and under-innovating or "dampening" to allow limited innovation rather than none at all.

The nature of the implementation coalition varies according to type of innovation. Some innovations involve teachers (e.g., the introduction of special aids geared to altering classroom instruction). Other innovations involve more highly administrative personnel within the organization (e.g., innovations with special implications for certain community groups). Implementation, therefore, creates special problems in maintaining and expanding adoption coalitions; for, in implementation, the innovation begins in very concrete ways to affect organizational members, as well as parties with which the organization deals. In implementation, an idea or plan (adoption) becomes reality.

5. Incorporation

A successful innovation is one that passes through trial implementation to incorporation. Very little is known about incorporation, although work by Yin[21] provides a useful beginning in understanding this. There appears to be a transition period following implementation during which the innovation becomes routine and ceases to be considered new. Sometimes it is difficult to define the point at which a decision is made to incorporate an innovation. In other cases there is a milestone for incorporation, seen in a transition from primarily "soft" (federal or state) money to all (or mostly) "hard" (local) money.

Incorporation may take a very long time, and different parts of an innovative program may be incorporated, perhaps at different points. When is incorporation complete? Incorporation occurs when the entrepreneurial function disappears because the supporting coalition is stable and taken for granted and there is no longer a need for the entrepreneur.

6. Residual Effects

If little is known about incorporation, there is almost a complete absence of knowledge where "residuals" are concerned. What are the residual effects of the decision-making/coalition-building process? At the completion of a particular innovation, are there residuals? For example, is there learned behavior about how to go about building a coalition that can be transferred to another innovation decision? Are there new organizational arrangements, different decision-making processes, that increase the capacity of the local school district to solve its next problems? [22] Do "things go back to normal," back to a pre-innovation stage, after federal or state monies dry up? These are questions that are addressed in the "Residuals" chapter of this study.

Empirical evidence of such residuals can be found in changes of policy, program, organizational structure, administrative arrangement, and relations between the educational organization and other organizations. Our research reanalyzes our data on Rochester's Project Unique and on Syracuse's Campus Plan, examining the residual effects of these innovations.

It must be emphasized that our interest is not the particular innovation, but the organizational (indeed, interorganizational) behavior associated with it. Do educational organizations learn to institutionalize innovative decision-making by turning ad hoc coalitions around an innovation into lasting alliances of support for the organization? Does coalition-building capacity for organizational innovation entail building relatively permanent alliances which institutionalize innovative ability?

The development of an "administrative technology" for "joint decision-making" is ultimately at issue as a residual of organizational coalition-building. Such a pattern replaces bargaining relations between an educational organization and its environment with one of mutual problem-solving.[23] Under what conditions does such an administrative technology develop? Is there no lasting alliance, but a different coalition for each issue, even though the issues are solved by top management decision-makers? If coalitions do not last, what of learning by the educational organization? Does it learn from failure, or success? Can the capacity to innovate be revealed in successive innovation processes regardless of the issue, in spite of the fact that different actors must be brought into a given coalition? While specific actors may change, there are certain roles that have to be filled in a coalition process that moves an innovation to incorporation. Learning how to aggregate the necessary roles should be possible. A longitudinal study of educational organizational decision-making such as Rochester's Project Unique and Syracuse's Campus Plan tests this expectation and suggests the degree of learning that takes place within organizational coalition-building.

Comparative Analysis

We have used the preceding decision-making/coalition-building process model in studying ten new innovations in the Syracuse and Rochester school districts. These are similar to the ones already studied for NSF in that they involve top-level decisions by central school administrations and coalition-building. They cover a range of issue areas. In addition to the new cases, we have restudied two cases completed under the NSF project from a new perspective; namely, looking for the ways in which decision processes were affected by residual effects of previous organizational innovation attempts, and how particular decision processes left residuals for ensuing innovation efforts. Our comparisons are thus based on a total of ten cases drawn from the experience of two school districts facing similar problems over a common span of years.

Comparisons are made across various dimensions. We have compared coalition behavior for different innovations within the two cities. Which issues required larger, which issues smaller coalitions for innovation to proceed? Within each issue area, we identified the stages of organizational decision-making with respect to educational innovation.

What kinds of coalitions form in the different stages? How do these vary within the given issue areas? Also, we compared across cities. Is coalition behavior different in Rochester and Syracuse? Our eight nonresidual cases have yielded little evidence of differences in basic organizational processes. However, our longitudinal inquiry of Project Unique and the Campus Plan has helped us to perceive those conditions leading to different organizational capacities in coalition-building. Such findings can be useful in building better theory and can also aid public policy-makers in the field of education.

Field Research Activities

Our research for this project consisted of two stages. Prior to actually beginning our field research, we conducted an extensive search within each of our two chosen educational organizations--the Syracuse City School District and the Rochester City School District--in an effort to identify innovations chosen as solutions to policy-level problems. We focused on substantive problem areas such as eliminating racial imbalance in the schools, handicapped education, school disruption and violence, and education of the economically and culturally deprived. We looked for problem-solving cases in which there were serious attempts by actors within the educational organization to get innovations adopted and used. In addition, we gave weight to the following:

(a) data availability;
(b) sufficient community interest and awareness;
(c) an identifiable entrepreneur;
(d) appropriateness for longitudinal study;
(e) policy-level decisions by central educational administration;
(f) a perceived high impact;
(g) federal and state interest in the program; and
(h) a range of cases in various stages, including both rejected and completed programs.

As noted, we reanalyzed Rochester's Project Unique and Syracuse's Campus Plan for evidence of residual effects emanating from the innovation process. On the basis of our search, additional innovations were selected for study (see table 1).

The data base for our research consisted of case studies prepared for each of the innovations selected. The cases are individual histories, recounted as a sequence of events and decisions and developed around a common set of concepts embodying our model of and our concepts of bureaucratic entrepreneurs and coalition-building. Thus, we employed a longitudinal approach in this research. We are fully aware of the problems of generalization in any study of this nature, given a limited number of cases (ten) drawn from two organizations. We argue, however, that we are in a field where exploratory research of this kind is

Table 1

	Syracuse	Rochester
1st Year	The Campus Plan (Residuals) Employment of Paraprofessionals Computer Usage in Education	Project Unique (Residuals)
2nd Year	Magnet Schools Education of Handicapped children	Urban-Suburban Interdistrict Transfer Plan (USITP) Metropolitan World of Inquiry School Urban-Suburban Center for Innovation in Education Project Unique (Residuals)

especially important before moving to larger-scale research involving a substantially greater number of school organizations. Blalock maintains that the researcher must immerse himself/herself in the data and learn all that he/she can from as many perspectives as possible when only a few established hypotheses and a small list of possible variables are available.[24]

The primary locations for our field were, of course, Syracuse and Rochester, New York. In addition, there was some travel to Albany, New York, to meet with New York State Department of Education officials and to Washington for the federal perspective.

Data on our case studies were obtained from organizational files and newspapers, as well as from personal interviews with key actors involved in the innovation. Files of some of these actors were also utilized, to the extent possible, to obtain their perspectives on the coalition-building effort of the educational organization.

Our original plan was to complete all of the Syracuse cases in the first year of research and to research all Rochester cases during the second year. However, circumstances prompted us to research two of the Syracuse cases during the second year. At the end of our first year, we presented NIE with an interim report, discussing our findings to that point. Therefore, in this final report, in an effort to provide comparison and contrast with those tentative findings, we refer to the products of our first year as "the first-year cases," rather than "the Syracuse cases." Similarly, we refer to our second-year research as "the second-year cases," instead of "the Rochester cases." Comparison will be made, however, both between the conclusions of the interim and final reports and, in the context of our discussion of residuals, between the two cities.

II. THE DECISION-MAKING ENVIRONMENT

Educational innovations in Rochester and Syracuse are influenced by similar social, economic, and political conditions. In many respects, the decision-making environments in these urban centers have developed along similar paths. Each reflects the declining status often associated with northeastern cities: static tax base, aging capital infrastructures, declining population, and eroding personal wealth relative to suburban and regional neighbors. Yet, both communities have escaped the extreme symbols of decline: large annual deficits, default on borrowing, and fiscal receivership (i.e., municipal control boards).

Decision are not made in a vacuum. They are affected both by the character of each individual who contributes to the process and by the setting within which each participant lives and works. Innovative programs and their entrepreneurs are subject to the conditions surrounding them, and a full understanding of an innovation's progress through the decision-making network may only be achieved if the factual presentation of events is conditioned by a description of environmental variables which can shape those events.

Political Environment

The political histories of Syracuse and Rochester have followed similar paths. For most of the last hundred years, the political process in each community has been dominated by a single political party. Only in the last ten years has two-party competition emerged. In 1960, there were few Democratic office holders in Monroe and Onondaga Counties. However, the 1977 local elections underscored a shift in political influence. After the elections, Democrats held control of the legislatures of Monroe and Onondaga Counties, the cities' common councils, and the two mayoral offices. In the November 1979 elections, control of the Onondaga County Legislature was restored to the Republicans by a slight margin, but fierce, two-party competition continues.

The emergence of the Democratic Party as a major force in these local political settings is not the result of sudden shifts in party enrollment. Enrolled Repuglicans have generally outnumbered enrolled Democrats in the two communities; and, although some erosion in Republican enrollments has recently occurred, this has not totally been to the benefit of the Democratic Party (see table 1). Between the 1966 and 1974 gubernatorial elections, the Republicans lost 8 percent of their enrollment in Rochester and Monroe County and lost only slightly less in Syracuse and Onondaga County. Nearly 28 percent of that loss did not serve to expand the base of the Democratic Party, but rather increased the ranks of independent voters.

Unless there is a sudden departure from this general trand, public policy in both metropolitan areas is less likely to be set by any one party's singular influence and more likely to be the result of a broader and more diverse range of interests reflective of the increased number of new participants who can aspire to and achieve public office. Consequently, the end result of decision-making activities may be less predictable, and coalition-building amidst a larger group of participants more difficult.

The ideological environment within which public policy is fashioned can also affect the success or failure of attempts to innovate. In the twentieth century, under the leadership of both Republican and Democratic governors and state legislatures, New York State has gained a "liberal" reputation in areas of social welfare policy. However, this tendency has not been evenly diffused, geographically. As if to balance "ultra-liberal" New York City, upstate counties have generally been considered fiscally and socially conservative. Metropolitan Syracuse and Rochester have shared this upstate image. Despite these stereotypes, however, it can be argued, on the basis of recent gubernatorial elections, that Rochester tends to be politically more liberal than Syracuse (see table 2). Since 1966, Syracuse has consistently given much less of its vote than has Rochester to the gubernatorial candidate with a liberal image. (In 1966, Rockefeller, a Republican, had a liberal image; in 1970 and 1974, Democrats Aurthur Goldberg and Hugh Carey, respectively, had the liberal image.) The suburbs of both Rochester and Syracuse tend to be more conservative than the cities.

In addition to the two major parties, institutionalized, nonpartisan groups also can involve themselves in and, possibly, alter the development of public policy. In the educational arena, Rochester and, to a lesser extent, Syracuse have encouraged the participation of such groups in their decision-making activities. Parent-teacher associations can often be called upon by bureaucratic entrepreneurs to assist an innovation through the decision-making network or to advise them on controversial issues in an attempt to minimize nonconstructive opposition. Educational programs in both Syracuse and Rochester have been influenced by these traditional coalitions.

However, in Rochester and in Monroe County, there appears to be a broader range of institionalized coalitions which are potentially active participants in the development of educational innovations. While both Syracuse and Rochester have benefited from the input of a nonprofit, municipal research corporation, the Syracuse counterpart has floundered in recent years and is now defunct. Urbanarium, a consortium of local education-related institutions, has been active in Monroe County in promoting the resolution of education-related problems. The Greater Rochester Intergovernmental Panel is not aloof from offering its commentary on educational programming concepts. To the

Table 2

PERCENT OF TOTAL VOTE CAST FOR GOVERNOR BY PARTY

	1966		1970		1974	
	R	D	R	D	R	D
New York State	44	37	51	35	35	51
Upstate	48	35	54	33	41	47
Monroe County	45	36	47	36	38	52
Rochester	40	44	43	43	31	58
Onondaga County	33	49	51	31	51	37
Syracuse	33	52	49	35	46	42

extent that such public interest groups can assist in the adoption of an innovation or foster a favorable climate for change, Rochester might have an environmental advantage over Syracuse.

Governmental Setting

It might once have been possible to study urban decision-making in a context that was wholly contained within the political boundaries of the cities of Syracuse and Rochester, but this is no longer true. Urbanization is rapidly transfiguring the face of the cities and all of the surrounding communities. In 1961, for example, a group of authors wrote a book, Decisions in Syracuse,[25] a collection of decision-making cases aimed at revealing the existence or nonexistence of a local power elite. In undermining the power elite thesis, they pointed out the diffusion of decision-making centers in Syracuse. They found that it was no longer possible to speak of Syracuse without reference to the larger metropolitan entity of which it had become an inextricable part; the same could just as easily have been said of Rochester. The logic of this approach has become more compelling with each passing year. We speak of Syracuse and Rochester, but we increasingly find Onondaga and Monroe Counties constituting the setting that most approximates the reality of many urban public services. Metropolitanization is an emerging trend that projects county-level officials across urban/suburban lines of authority. Decisions that were once the exclusive responsibility of urban officials may now be decided at the county level as well; and solutions may emerge through urban/suburban coalitions.

A discussion of local educational programs must consider four governmental systems: the City of Syracuse, the County of Onondaga, the City of Rochester, and the County of Monroe. These four governments sponsor most public services in the greater Syracuse and Rochester metropolitan areas.

Syracuse

The Syracuse City School District, headed by an appointed superintendent, is governed by a seven-member board of education elected at-large. Its budget is subject to approval by the City Board of Estimate, composed of the mayor, the president of the Syracuse Common Council, and the director of finance (an appointee of the mayor), and it must also be reviewed by the common council. The council, however, has limited authority over the city's annual budget and, generally, restricts its deliberations to possible modifications in the annual capital equipment program. It cannot alter program levels or personnel allocations and, traditionally, has not made any changes in school district allocations. If the common council fails to approve or act upon the school district budget, the plan originally tramsmitted by the City Board of Estimate automatically becomes law. Since the city school district cannot override board of estimate action on the school budget, that board is perceived to have considerable authority over school district finances. This is one of the basic underpinnings of a strong-mayor form of government and distinguishes it from other forms of city administration such as city management. It is through this strong control over local finances that the mayor may impose the authority of his/her position on educational decisions.

Aside from its fiscal limitations, the Syracuse Board of Education possesses significant autonomy in day-to-day district operations and educational policy-setting. The board's historical concern for preserving its autonomy has resulted in litigation between itself and the city administration. While this relationship has not always prompted cooperative efforts between the board and the mayor, it does surface periodically and may deter supportive coalition-building between the two authorities. In Syracuse, financing school district programs has undergone a major evolution since the late 1960s. The school district has availed itself of an increasingly greater proportion of the city's annual capital program (with the approval of city administrators, of course). As a result, many school district buildings and facilities have been renovated or replaced, generating a full range of opportunities for staffing, class scheduling, and administrative changes. Capital expenditure decisions in Syracuse must be approved by the City Board of Estimate and the Syracuse Common Council. Because of its fiscal dependence upon these other institutions, the Syracuse Board of Education often must share its policy domain with city administrators and legislators.

The Syracuse City School District is administered by a superintendent who possesses the usual appointive and program responsibilities associated with the position. The superintendent is supported by professional administrators who, more often than not, have attained their position through upward movement in the school district organization.

The chief executive of the city is the mayor, who is checked by the common council which has customary legislative powers. The common council consists of a president and four members elected at-large, together with five others elected by district. Bonding resolutions, a primary means for funding large-scale facility improvements, must be passed by a two-thirds vote of the council.

Lee Alexander was elected mayor of Syracuse in 1969 and was reelected in 1977 for a third term. Alexander was the first Democratic mayor in many years and has generally had a Democratic-controlled council with which to work. However, the local Democratic Party is far from unified, and the Democrats on the council have been independently minded, not fearing to oppose mayoral programs and budgets on occasion.

Although Syracuse operates under a strong-mayor form of government, Alexander has chosen not to become overly involved in the daily operations of city government. When he was first elected, many politicos predicted that the young, photogenic mayor would soon be seeking higher office. After he was reelected for a second term, he decided to run for the U. S. Senate. Although backed by the state Democratic Party, he was easily defeated in the Democratic primary by activist Ramsey Clark. Undaunted, Alexander shifted his attention from higher elected office to professional activities. He threw much of his energy into the U. S. Conference of Mayors and, in 1977, was elected its president, the first representing a small-to-medium-sized city.

Understandably, all of these outside activities have cut into the time that Alexander personally spends on city business. To govern the city, Alexander has, from the beginning of his administration, delegated broad authority to his department heads. By and large, his appointments have been based more on professional reputation, experience, and ability than on patronage or partisanship. For example, his commissioner of finance is a Republican holdover from the previous administration and is regarded as a master of municipal finance who has helped to keep the city in a relatively strong financial position. Thus, it can be said that Alexander has created a climate that very much encourages independence and professionalism in his city agencies.

A the same time, Alexander's outside contacts have also paid dividends. He has tried to ensure that his agencies would not have to face austerity programs through reliance on the city's dwindling tax base. To obtain outside funds, he not only has personally spent a great deal of time pursuing outside grants in Washington, but he also has built a powerful office in City Hall to garner federal and state funds: the Office of Federal and State Aid Coordination. Syracuse now relies on federal and state funds for about 30 percent of its budget. These resouces have inured not only to the benefit of the city operation, but to educational programs as well.

Onondaga County

Since the early 1960s, Onondaga County has modernized its governmental operations. In 1961, the town-oriented Board of Supervisors of Onondaga County that had served both as executive and as legislative branches was supplemented by an elected county executive with authority over administrative departments. In 1966, the effect of population changes and related reapportionment cases continued the modernization trend when the board of supervisors was replaced by the current county legislature. The county was reapportioned and divided into 24 legislative districts with equal populations: 12 within the city and 12 outside of the city. In effect, county government also has a "strong-mayor" type of government. Budget procedures for both units are somewhat dissimilar, however. The county legislature can make line-item and programmatic adjustments which the Syracuse Common Council cannot do.

This shift in services may have important consequences for urban school districts. Both Rochester and Syracuse are dependent school districts; that is, they are wholly dependent upon the parent city for local revenue generation to support the full range of educational services. They must annually compete with all other city services for their share of local resources. Because the amount of property tax generated each year for school and other services comes from the same tax levy, the annual growth of which is limited by the New York State Constitution. Large urban schools such as in Syracuse and Rochester face considerably greater fiscal constraints than do the smaller suburban schools in districts which have a separate tax levy for school purposes. One way to ease this competition for tax dollars between educational and non-educational programs is to transfer the cost of basic city services to another jurisdiction. For the entrepreneur seeking a share of limited local funds with which to incorporate his or her innovation, this trend may, indeed, represent a clear opportunity.

To a lesser extent than in Rochester and Monroe County, the spirit of metropolitanization in Syracuse has been slowly shifting "traditional" urban services toward the county. A number of social-service and welfare programs, formerly left to the city and small towns, have been taken over by the county. In 1967, public health, once a city responsibility, became a county function. Environmental quality has come under county jurisdiction. More recently, data processing, the city zoo, the city library system, and solid waste disposal have been added to the list of functions being transferred from city jurisdiction.

The most notable observation on the Onondaga County governmental process is that most of these vast changes in county government since 1961 have been overseen by a single chief executive, County Executive John Mulroy. A farm owner who was previously the supervisor of a rural town, Republican Mulroy has been the county's first and only county executive, reputedly the longest reigning county chief executive in the nation.

Until January 1978, Mulroy had a Republican-dominated county legislature with which to work, and this combination provided relative stability and predictability in county government operations. In contrast to Alexander, Mulroy is an insider who oversees in detail the management of county government. While many of his department heads are competent professionals such as nationally known county engineer John Hennigan, it cannot be said that Mulroy delegates much responsibility or gives free reign to his line officers. On the other hand, Mulroy is regarded as a political progressive who, while maintaining the highest possible rating for county bonds, has steered county government toward growth and the acquisition of increased responsibilities.

Rochester

In FY 1979-80, Rochester's budget stood at about $297.2 million ($116.8 million for education and $180.4 million for general city purposes.) In charge of these expenditures is a city manager. Rochester adopted the council-manager form of government in 1928, one of the first large cities to do so. The change in government was a classic example of the "good government" movement of the early 1900's. George Eastman's Bureau of Municipal Research was a strong influence, but the adoption of the new form of government would not have occurred had it not been for a bitter intraparty split in the local Republican Party. Party leaders, both Democratic and Republican, were opposed to the change in the structure of government and attempted to overturn the decision of the voters in court. Although the council-manager form of government was upheld, the court struck down nonpartisan city elections.

The relationship between partisan elections and the city manager has been a continuing issue in Rochester politics. Whether the city manager form has brought "professional administration" to Rochester, or at least more professionalism than in cities without the council-manager form, is certainly open to question. Since 1928, there have been 13 city managers who have had an average tenure of less than four years each.[26] Although one manager in the 1940s lasted thirteen years, many others stayed a very short time, probably making the establishment of routinized management procedures very difficult. Whenever party control changed at City Hall, the manager was sure to go. The same often held true even when the leadership of the party in control changed. Partisan influence over city managers was maintained, moreover, by choosing most managers from in-house candidates. Some of the early managers were civil engineers, but only Porter Homer, in the early 1960s, and, recently, Elisha Freedman have been professionally trained public administrators.

The drawbacks of Rochester's council-manager government have been pointed out in a recent proposal for a new Rochester charter.[27] For example, it has been difficult to make long-range decisions. The nine-member city council often becomes involved in administrative decisions, including personnel and labor relations. Policy has tended to be set in reaction to crises. Councilmen have held informal veto power over departmental appointments even though the manager, in theory, has full authority. The policy-making tension between the manager and the council has, in addition, not been ameliorated by the mayor, who has few official duties other than presiding over the council.[28] In sum, one study of Rochester's government concludes:

> The council-manager system as it exists in Rochester has a substantial weakness in that there is no unified policy leadership. The position of mayor, as presently constituted, does not provide the power necessary for strong policy leadership. Further, the fragmented council, with its members reacting differentially to pressures, events, and individual motivations, has not provided a stable basis of support to the manager for constructive, longer-range programs or quality administration . . . . The city manager is in the difficult position of having his efforts divided on both administration and policy--with insufficient time to spend on either function.[29]

In spite of these limitations, Elisha Freedman (who was city manager prior to the appointment of the current manager, L. Joe Miller) has sought and was accorded increased authority, especially in making appointments. For example, he convened a panel of respected fire chiefs to interview candidates for fire chief. The International

Association of Chiefs of Police, similarly, was consulted on the selection of a police chief. Freedman also overhauled Rochester's Department of Public Works, which was generally agreed to be inefficiently operated and bloated by patronage. Employment in the Department of Public Works has now been reduced by nearly one-half.

At lease part of the reason for the recent ability of the city manager to play a larger role is the declines in the power of organized political parties. As noted earlier, Monroe County voters have not remained loyal to their party candidates. Moreover, patronage jobs have steadily given way to civil service appointments, and the importance of "ward politics" has been eclipsed, a victim of legislative district reapportionment. Party politics, instead, appears to have given way to the politics of issues, and interest groups in Rochester have replaced political parties as the major political actors. In education, as well as in city policy developments, Rochester, to a greater degree than Syracuse, has seen participation of a number of strong interest groups, ranging from a politically active chamber of commerce to public service and neighborhood-centered associations.

The relationship between the Rochester Board of Education and the city administration is similar to that in Syracuse. The board maintains its autonomy in day-to-day affairs and is fiscally dependent upon the city for local resources. However, Rochester does not have a board of estimate; and its city council, accordingly, possesses greater budgetary authority than its Syracuse counterpart.

Coalition-building between school and city officials will be tempered, of course, by Rochester's particular type of government. The city manager derives the authority of his office from the common council. The manager may be cautious in considering fundamental changes in policy so as to ensure a continued, favorable relationship with the council. In Syracuse, the mayor derives his authority from the electorate and may be less dependent upon council agreement. This difference, of course, only has significance for those issues that need to be submitted to the council for its formal consideration.

Monroe County

Following the lead of Rochester, Monroe County appointed a county manager in 1936. At that time, the county's legislative body was the board of supervisors, and county managers tended to be chosen from the ranks of the supervisors. Unlike the city manager, however, the county manager was appointed for a four-year term. In 1965, the board of supervisors was replaced by a county legislature, divided into 29 legislative districts of which twelve are located in Rochester.

Although guaranteed a four-year tenure, the county manager has always been subject to intense partisan pressure and has been hard-pressed to provide independent leadership. In the county, governmental leadership usually has been exercised either by the county Republican chairman or by the legislative majority leader.

Political pressures notwithstanding, there has been a long-standing trend toward consolidation of urban functions at the county level in Monroe County. Indeed, Monroe County has been a leader in New York State in this regard. While the growth of county control over former city functions did not begin until the 1960s in Onondaga County, transfers of functions from city to county government have been occurring in Monroe County since the 1940s. At an earlier time and to a greater extent than Onondaga County, Monroe County has moved closer to a truly metropolitan government.

Local Government Finances

The availability of local resources for incorporating innovative programs into the educational system is an important element in depicting characteristics of the decision-making processes of both Rochester and Syracuse. Neither city has wholly escaped the fiscal constraints often associated with the declining status of older, northeastern cities. Yet, both may have escaped the extreme symbols of decline through service cutbacks and increased reliance on state and federal resources.

During the 1970s, the fiscal condition of Syracuse ranged from severe distress to moderate stability. In 1970, the combined city and school district budget stood at $62.3 million, $29.4 million for educational purposes and the remainder for all other city services. The budget was supported by a total tax levy of $25.8 million. The levy for school district purposes was $15.3 million, or 60 percent, requiring an ad valorem tax rate of $35.83 per thousand assessed valuation. By 1979, the school district's share of the tax levy had increased to 82 percent, while the city services portion of the tax levy had declined from the 1970 total of $10.4 million to $6.4 million in 1979. The commitment of local tax resources for school purposes increased substantially during this period.

Not all of the growth, of course, represented "new" money for instituting new program initiatives. Most can be attributed to cost increases for traditional educational programs resulting from inflation and higher negotiated salaries. However, part of the increased availability of local resources to meet school district needs was designed to address the growing concern that educational facilities in Syracuse were outdated and in deteriorated condition. Between 1970 and 1979, total indebtedness for school construction, rehabilitation, and related improvements grew 343 percent. The intensity of these activities created unique opportunities for programming and scheduling which had a direct impact on the solution of racial imbalance problems at primary and secondary levels. But it may have also interjected into the educational decision-making network a broader range of participants, since common council approval is required for all capital projects.

Coalition-building in 1979 may be more complex, as educational administrators must solicit support and limited commentary from common councilors to implement building construction and improvements. To the extent that these improvements generate opportunities for program change in the educational system, city legislators may now be more actively involved in program decision-making within their school district.

In Rochester, school district dependence upon local resources reflects a somewhat different pattern. The Rochester tax levy for school purposes in 1969-70 was $26.9 million, or 54 percent of the total combined city/school district levy. By 1978-79, the school purposes levy had grown to $45.3 million, but represented nearly the same proportion of the total levy; no real shift in this principal local resource had occurred. However, the range of local revenue available to the Rochester City School District is larger than in Syracuse. The Syracuse City School District allocated a total of $31 million in local support in 1979. The property tax levy represented 97.1 percent of that total. In Rochester, the city school district received an estimated $76.3 million in local assistance during the same year, but only 59.2 percent consisted of property tax dollars. Many of these revenue sources appreciate modest, natural annual growth without administrative or legislative action (i.e., the Rochester City School District receives a greater proportion of local sales tax than does Syracuse). Unlike Syracuse, where reliance upon the property tax compels a return to the common council each time a major increase in local funding is requested, the Rochester City School District may have more internal flexibility to fund innovations without having to call upon legislative intervention for approval.

Population Characteristics

Both Syracuse and Rochester are declining in population, while the populations of their counties are on the rise. The U. S. Bureau of the Census cites that, in 1960, the City of Syracuse had 216,038 people and Onondaga County had 423,028. By 1970, the city had a population of only 197,297, and the county had grown to a population of 472,835. Similarly, in 1960, Rochester had 318,611 people, and Monroe County had 586,387. By 1970, Rochester had declined to 295,011, and Monroe County had spurted to 711,917 (see table 3).

During the same period, the composition of the population changed. In 1960, the City of Syracuse had 12,281 non-Whites, or 5.7 percent, compared to 23,597, or 12 percent, in 1970. The shift in Rochester is even more dramatic. The 1960 count of non-White minorities was 24,228, or 7.6 percent. By 1970, the proportion had grown to 52,115, or 17.6 percent.

As the population has changed racially, it has also changed in age. Senior citizens have tended to remain in the city, keeping their homes or apartments in established neighborhoods or moving into new, high-rise apartments. Each of the cities has four percent more people over 65 years of age than do their counties. In short, both Syracuse and Rochester are gaining more people who require services but are not as able to support them as past populations have been. (See table 4.)

Table 3

POPULATION AND PER CAPITA INCOME

	New York State	Monroe County	Rochester	Onondaga County	Syracuse
1960 Pop.	16,782,304	586,387	318,611	423,028	216,038
1970 Pop.	18,241,391	711,917	295,011	472,835	197,297
1975 Pop.	18,075,487	708,642	267,172	472,708	182,543
% Change 1960-1975	+7.7%	+20.9%	-16.1%	+11.7%	-15.5%
1960 Income	2236	2295	2068	2132	2152
1970 Income	3608	3821	3238	3386	3158
1975 Income	4903	5311	4335	4691	4123
% Change 1960-1975	101.4%	131.4%	109.6%	120.0%	91.6%

Sources: U. S. Bureau of the Census. *County and City Data Book, 1972*; and *Population Estimates and Projections* series, P-25, No. 680, May 1977.

Table 4

POPULATION AGED OVER 65 YEARS
(Percent of Population)

	1950	1960	1970
New York State	8.5	10.1	10.8
Monroe Co.	10.0	10.8	9.7
Rochester	11.0	14.0	13.7
Onondaga Co.	9.1	9.5	9.3
Syracuse	9.5	12.1	13.0

Source: U.S. Bureau of the Census. *County and City Data Book, 1972, 1967, 1957*.

These trends in urban population counts and composition precipitated a fundamental change in the characteristics and size of student populations in Syracuse and Rochester. In fall 1966, Rochester had a total public school enrollment of 45,586 pupils, while Syracuse had enrolled a total of 30,103. By fall 1976, enrollment in Rochester had declined to 41,003 (-10 percent) and, in Syracuse, to 25,150 (-16 percent).

The composition of student populations in both cities has also undergone significant change. The minority portion of student population in Rochester increased from 17,090 students in the 1970-71 school year to 22,064 in the 1976-77 school year, or an increase of 29 percent. In Syracuse, the minority proportion of total student population for the 1970-71 school year was 25 percent (7,411 pupils). By the 1976-77 school year, the proportion had increased to 35 percent (9,166 pupils) for a total gain of 24 percent. These changes in student populations in both districts was not proportionately matched by a reduction in per-pupil costs. In the 1966-67 Rochester school year, expenditures per enrolled pupil were $770. Expenditures per enrolled pupil for the 1976-77 Rochester school year had risen to $2,022, or by 163 percent. Similarly, per-pupil expenditures in Syracuse had increased during the same period from $731 (1966-67) to $1,618 (1976-77), or by 121 percent. Per-pupil expenditures in Rochester during this period have grown at a higher rate than in Syracuse.

Even over this short period for which data is available distinctions between the two districts can be found. The Rochester City School District has become more costly on a per-pupil basis and has experienced a larger growth in minority population. These trends have occurred at the same time that total enrollment declined.

Personal Wealth

The change in the character of the general and student populations in the Rochester and Syracuse City School Districts has paralleled a relative decline in personal income. Monroe County is a wealthy county (see table 3). Some of the Rochester suburbs, especially Brighton and Pittsford, are among the wealthiest in the nation. Per capita income in Monroe County was $400 greater than that of New York State by 1975. In contrast, per capita income in Onondaga County was $200 less than the state level, but was closing the gap. The cities have less per capita income than the counties, and the income difference is widening (see table 5). In 1960, per capita income in Syracuse was larger than that in Onondaga County. By 1975, per capita income in Syracuse was 88 percent of the county's. The situation in Rochester is equally striking. The income differential between Rochester and Monroe County is 18 percent.

Similarly, table 6 presents per capita data on taxation, debt, and expenditures for the two areas in 1965 and 1974. Items one to four show that the two cities are more hard-pressed, financially, than are the counties. The cities have often approached all of their maximum

Table 5

CITY POPULATION AND INCOME AS A PERCENT OF COUNTY POPULATION AND INCOME

	1960	1970	1975
Rochester/Monroe Co.			
Population	54.3	41.4	37.7
Per Capita Income	90.1	84.7	81.6
Syracuse/Onondaga Co.			
Population	51.1	41.7	38.6
Per Capita Income	100.9	93.3	87.9

Table 6

PER CAPITA TAXATION, DEBT, AND EXPENDITURES*

		Monroe	Rochester	Onondaga	Syracuse	NYS Counties Outside NYC
[1]Property Tax Authority	1965	82	117	75	109	83
	1974	125	247	102	146	123
[2]Property Tax Levied for County(City) Purposes	1965	44	117	42	108	41
	1974	87	242	71	134	82
[3]Constitutional Debt Limit	1965	392	462	335	391	389
	1974	551	601	439	481	556
[4]Debt**	1965	106	223	84	148	73
	1974	317	808	346	243	272
[5]General Current Operations	1965	89	110	84	96	74
	1974	254	255	265	218	262
[6]Capital	1965	13	29	37	12	17
	1974	58	137	68	42	42
[7]Debt Service	1965	7	69	17	13	11
	1974	31	159	73	63	36
Total	1965	113	217	139	132	109
	1974	369	576	411	309	358

*Based on 1960 and 1970 population.

**Not all debt under New York State law is subject to the state's Constitutional debt limit. In Rochester in 1974, only about 1/2 of its total debt was subject to the debt limit. In Syracuse that year, almost all of the debt was of types subject to the limit.

Source: New York State Department of Audit and Control, Special Report on Municipal Affairs by the State Comptroller, Years ended 1965 and 1974.

property taxation authority as determined by the New York State Constitution. The Rochester area is also more heavily taxed than is the Syracuse area. The City of Rochester has been especially hard-hit with increased property taxes in the past decade.

Per capita debt has dramatically increased since 1965 in both areas. Both counties have outpaced the upstate average, with Onondaga County having overtaken Monroe County. The biggest problem is in Rochester. Its per capita debt has increased almost fourfold. While Syracuse and Onondaga County have remained well below their debt limit as set by New York State, Rochester has kept below its authorized debt ceiling only by resorting to types of bonds that are exempt from the debt limit.

Consequently, items five through seven show that Rochester must now spend almost three times per capita more than Syracuse on debt service. The City of Rochester outspends Syracuse on general operations and capital requirements, but Onondaga County government spends more per capita than Monroe County government. As is the case with per capita income, the disparity between Rochester and Monroe County, compared to Syracuse and Onondaga County, seems to be increasing. In Rochester, to a greater degree than in Syracuse, the poor are getting poorer, but are being charged more for local government services.

Industrial Influence

Both Syracuse and Rochester have been shaped significantly by industrial and technological growth. In Syracuse, natural brine wells at the foot of Onondaga Lake provided the city with the resources of one of its first industries, the Solvay Process Company. The Allied Chemical Corporation, of which Solvay Process is now a subsidiary, is still dependent upon salt brine deposits in the area for its chemical production. The china manufacturers of Syracuse also use local sources of supply. However, most industries are located in the Syracuse area because the general business environment is good for industry.

Syracuse is traditionally a manufacturing center. One-third of its employment today is in manufacturing (see table 7). With the national growth of industry in the last few decades, some former Syracuse industries have been taken over by large corporations such as the Carrier Corporation's merger with United Technology. Syracuse is also home base for a few, big companies such as Agway, Inc., and Crouse-Hinds Company. Other firms (e.g., the General Electric Company), attracted to the area by a good industrial climate (e.g., skilled labor, power, water, transportation, proximity to markets), have chosen to locate plants in the Syracuse area, but their loyalty to the city has declined over the years. As industry has expanded and needed larger facilities, it has spread to industrial parks outside the city limits.[30]

There is enormous diversity in the industry of Syracuse and Onondaga County. Greater Syracuse is represented, in all standard industrial

Table 7

PERSONAL INCOME FROM WAGES AND SALARIES, 1972

(percent of total, by sector)

	Upstate N.Y.	Monroe	Onondaga
Farms	.3	.1	.1
Contract Construction	6.5	5.8	6.4
Manufacturing	31.1	50.5	30.1
Wholesale and Retail Trade	15.9	12.0	17.7
Finance, Insurance, and Real Estate	3.9	3.5	5.3
Transportation	3.2	1.6	4.3
Communication and Public Utilities	3.2	2.5	4.0
Services	13.4	11.7	13.2
Government	22.2	12.0	18.5
Other	.4	.4	.4

Source: New York State Division of the Budget, New York State Statistical Yearbook, 1974.

categories used in the Census of Manufacturing. As there are many large companies in the city and county, no one company plays a dominant role in the overall local economy or in public-service planning. Some of these companies such as Bristol Laboratories (pharmaceutical), General Electric, and Carrier could be classified as relatively sophisticated from a technical standpoint.

In addition, Syracuse University influences the general ambience of the city. The university is the third largest employer in the metropolitan area. However, while the financial impact of the university on the community has been measured, it is more difficult to discuss the social, political, cultural, or technological impact. Cooperative ventures of a formal kind between the university and the city are few, although the informal contacts, through graduates who find employment and individual professors who consult, may be important.

As industrial technology has influenced the evolution of Syracuse, it has also affected Rochester, perhaps in more striking ways. Rochester's basic industrial pattern was set in the late 1800s by a series of inventors. Chief among these was George Eastman, whose experiments led to the eventual development of a flexible, paper-based film to replace glass photographic plates. In the 1880s, Eastman produced the first small box camera intended for the mass market. Mass photography became more and more popular. Eastman increased his company's position by acquiring useful and potentially conflicting patents, and photographic inventions streamed from Rochester. By 1927, Eastman Kodak employed 7,000 and had its own industrial park consisting of 120 buildings.

The influence on Rochester of Eastman and the company he founded is incalculable. Until his death in 1932, George Eastman himself towered over most aspects of life in Rochester. He heavily endowed the University of Rochester and the Rochester Institute of Technology (RIT). He built up the Rochester Chamber of Commerce and the local YMCA. He established the renowned Eastman School of Music and built a magnificent Eastman Theater. He also spurred government reform by establishing a Bureau of Municipal Research.

Throughout the twentieth century, Eastman Kodak has dominated employment in Rochester. With current employment at about 52,000, Kodak provides about one-third of all manufacturing jobs in the five-county Rochester area and, roughly, one-eighth of all jobs. Each spring, the local economy receives a boost when Kodak distributes its wage bonuses to employees. These bonuses, in recent years, have reached about $100 million, annually.

Other Rochester industries are also based on high technology. Xerox Corporation now employs approximately 15,000 in Monroe County. Most of its growth occurred after the development of xerography in 1960. (The precursor of Xerox began in Rochester about 1900.) Bausch and Lomb, makers of optical equipment and lenses, began as the small shop of two nineteenth-century German immigrants. Sybron Corporation produces

Taylor instruments and Ritter dental equipment. General Motors employs about 9,000 in Monroe County at its Delco Division (carburetors). The generally good economic health of the Rochester area recently has thus been due to a dependence on industries that have been prosperous, especially photography, office copiers, and automobiles.

As in Syracuse/Onondaga County, rapid suburbanization occurred in Rochester/Monroe County during the 1950s and 1960s. This included industry as well as housing and retail outlets. Kodak has spilled over into the adjacent suburban Town of Greece. Xerox moved its principal manufacturing plant to neighboring Webster in 1958. Graflex and Strasenburgh, two other large employers, also moved to the suburbs in the late 1950s. As these industries prospered during the 1960s, the stage was set for the rapid population growth of Monroe County, all of which occurred outside the City of Rochester. As in Syracuse, the turning point came about 1960 when, for the first time, more assessed property valuation was found outside than inside the city.

The high-technology climate of Rochester is supplemented by the presence of two technically-strong, academic institutions. The University of Rochester, though not as large as Syracuse University in terms of student enrollment, is one of the most heavily endowed universities in the nation, thanks to Eastman and other Rochester industrialists. The university's reputation is in basic medical and optical research. Rochester Institute of Technology is a nationally known engineering school. In the late 1960s, it moved into a new $50 million campus on the outskirts of Rochester. Joseph Wilson, the late head of Xerox, was a prime benefactor.

Policy-setting both in Syracuse and in Rochester has reflected to some degree the development of high technology industries in each community. Recently, there have been conscious attempts to use that technology to improve the delivery of educational services.

Conclusion

While each innovation studied in Rochester and Syracuse is interesting in its own right, more significant value lies in our ability to extract conclusions about its impact on decision-making capabilities. Rarely can a decision be made in a vacuum. Variables external to the organization often shape the development of new ideas as they progress through the various stages of decision-making.

The organizational growth of local educational programs may be conditioned by environmental responses to the severity of a known problem and the alternatives selected to resolve it. Over time, the successful entrepreneur is likely to become increasingly aware of these responses and will "orchestrate" his or her idea through the maze of environmental variables in such a fashion as to assure the maximum probability of success.

Success begets success. Failure is discouraging. A learning process occurs, and those strategies employed in the past to carry an innovation through to incorporation are likely to be repeated in the future if they are perceived as useful in improving an innovation's chances in the decision-making environment. An understanding of the settings in Rochester and Syracuse is useful in distinguishing the differing types of innovations that have emerged and the "selling" strategies used to secure their adoption. Subtle differences in social, economic, and political conditions may explain differing responses in Rochester and Syracuse to similar problems (i.e., racial balance issues and information processing). The uniqueness of solutions posed and the adoption processes developed are no doubt partly a result of the differences in urban settings in the two metropolitan communities.

III. CASE SUMMARIES OF INNOVATIONS

What follows are brief summaries of the ten, fully-documented case histories provided in Volume II of this report. In order to render this volume of the report a self-contained document, we have included these case summaries for easy reference by the reader primarily interested in our project analysis and conclusions. Case summaries are provided for each of our eight original cases of educational innovation conducted in Rochester and Syracuse, as well as for our two "residual" cases, following up on earlier work for the National Science Foundation.

The cases and the authors who originally prepared the full-length histories for each case are listed below.

A. Adaptive Innovation: The Syracuse City School District and Education for Children with Handicapping Conditions, by J. Barron Boyd

B. Computer Technology in the Syracuse City School District, by Elma B. Boyko

C. The House Plan in the Syracuse City School District: Managerial Innovation in a Single School, by Thomas A. Dorsey

D. Magnet Schools in the Syracuse City School District, by Andrew M. McGreevy

E. Metropolitan World of Inquiry School (Part of the Urban-Suburban Interdistrict Transfer Program in Rochester/Monroe County), by Elma B. Boyko

F. Paraprofessionals in the Syracuse City School District, by Paul J. Flynn

G. Residual Effects of the Campus Plan in Syracuse, New York: 1966-1978, by Marguerite A. Beardsley

H. Residual Effects of Project Unique in Rochester, New York: 1970-1979, by Patrick J. Hennigan

I. Urban-Suburban Center for Innovation in Education (Part of the Urban-Suburban Interdistrict Transfer Program in Rochester/Monroe County), by Elma B. Boyko

J. Urban-Suburban Interdistrict Transfer Program: Project US in Rochester/Monroe County, by Elma B. Boyko.

A. Adaptive Innovation: The Syracuse City School District and Education for Children with Handicapping Conditions

In 1975 and 1976, federal and state laws mandated that certain types of education be provided to all public school children with "handicapping conditions." Two basic points made in these laws were that a "free and appropriate education be provided for each handicapped child in the district between the ages of 3 and 21," and that such education be provided in the "least restrictive environment." In response to these two principles laid out both in federal legislation (P.L. 94-142) and in state law (Chapter 853 of the New York State Education Law), the Syracuse City School District's special education effort involved the following:

(1) location of children with handicapping conditions;
(2) evaluation of children with handicapping conditions;
(3) placement of children in the proper programs;
(4) the educational programs themselves; and
(5) guarantees of due process for children and parents.

In these ways, the Syracuse school district set forth highly specific measures to comply with the legal mandates. In implementing these "innovations," the Syracuse City School District had little choice and little latitude about the specifics of the new procedures.

However, in devising programs for specific groups of handicapped children, the district enjoyed greater latitude. The district was not given specific, detailed instructions as to how to structure its programs for children with handicapping conditions, and it is therefore in these programmatic innovations that true innovation from district officials emerged. This type of case, which can be labeled "innovation from above," is a good example of how the politics of "forced innovation," so to speak, occurs.

The efforts of the district beyond that which was mandated for handicapped children included the following:

(1) a summer program for adolescents with learning disabilities, designed to prevent a regression in learning skills during the summer months--established in 1979;

(2) a special program to integrate autistic children and children without handicaps ("mainstreaming" autistic students by using innovative, pedagogical techniques)--established in 1979;

(3) a series of special classes for the developmentally delayed in an attempt to provide the developmentally delayed with a particularly rich learning environment; and

(4) a heavy emphasis on student participation in the Special Olympics, sponsoring local competition and supporting local participants who qualify for the National Special Olympics.

School district awareness of the problems of educating handicapped children predated the federal and state mandates of 1975-1976, and the district had had a series of programs to deal with these students for many years. However, the new laws called for programmatic innovations considerably expanded from existing programs, especially in terms of: the type of programs offered, the scope of the programs, the number of students served, the methods for identifying and processing students, and the guarantees of due process both for students and for parents.

The mandates were certainly catalysts for the district to look anew at the problem; and those in the district, both bureaucrats and nonbureaucrats, who had been concerned with the problems of handicapped students prior to the mandates, welcomed the new federal and state laws in that they forced officials to review existing programs and to take action where the need existed.

The primary actor in the search for alternatives to conform to the legal norms was the director of Education for Children with Handicapping Conditions, H. Thomas Clift. As the major actor for the development of adaptive innovations, he had responsibility for planning, administering, staffing, and directing the adaptive process. In addition, Superintendent Sidney Johnson played the role of a powerful advocate of the programs as they developed. He supported Clift and his office and defended their efforts before the school board, although the Syracuse Board of Education exercised authority over the direction of all new programs.

However, very little public debate over the programs took place at board meetings, probably due to the following reasons: (1) Superintendent Johnson's active and supportive stance; (2) the mandated nature of the programs; (3) the availability of outside funds to support many of the programs; and (4) the broad base of citizen support for the innovations.

The search for adaptive innovations was guided primarily by three factors: (1) the provisions of the state mandate which specified many steps to be taken (particularly with respect to procedural norms); (2) the input of many individuals, both professionals and private citizens who were interested in the issue; and (3) the desire to innovate on the part of bureaucratic entrepreneurs Clift and Johnson. The decision-making process leading to the adoption of many of the mandated and nonmandated aspects of the programs was characterized by an unusual degree of openness. Clift appears to have consulted with most of the important service and constituent groups in the area; and many of the more significant and innovative aspects of the district's programs were developed in response to a suggestion or request by an extrabureaucratic actor. This was the case with regard to the summer program for learning disabled adolescents and with regard to integrating autistic children with nonhandicapped students. (The catalyst for this came from professionals and parents associated with Jowonio: The Learning Place.)

Very little dissent arose as Clift's open decision-making style proceeded to include the various elements of the interested community. This case is singular in that there was virtually unanimous consensus on the part of those involved in the process, that their views were solicited by entrepreneurs Clift and Johnson, and that they were listened to and seriously considered. Only slight issue was taken with the speed of the district's action on the Jowonio negotiations and with the priorities of the district in their particular area of concern. Most external actors agree that their advice had a substantive impact on the policies eventually enacted by the district. This "grand coalition" of professionals, district officials, and parents gave an enormous impetus to the momentum of the programs. In addition, the availability of funds from both state and federal government made the programs particularly palatable to the district since it meant no diminution of the share of funds to be allocated to other recipients.

This case of "adaptive innovation," or "innovation from above," suggests several conclusions. The fact that change was mandated from the federal and state governments ensured that innovation would occur. Thus, the basic political question of whether to "change things" was avoided, as was the dissent which inevitably surrounds such a question. Attention then turned to how to institute the specific innovations demanded by law. By shifting the discussion to a question of "means" rather than "ends," increasing weight was given to the opinions and suggestions of both professional and lay "experts" who came to form a supporting coalition in the area of handicapped education.

It is also doubtful that the district would have been so successful in its programs for handicapped children had not the finances been available to support many of these efforts. Many of the innovations were paid for by local funds, but enough state and federal money was available to make the cost of innovation acceptable to the board and to city officials. In addition, a particularly noteworthy aspect of the financial situation was that some of the state funds allocated went directly into the general fund of the city. Therefore, besides funding some of the specific programs, the availability of external funds helped to expand the financial base of the general program and thus avoided creating a competitive environment within the grand coalition where different groups might have contended with each other for a piece of the financial pie. The scope of the coalition, the intensity of its involvement in the district's decision-making process and its stability were helpful in supporting the innovations at higher levels.

Whereas all of the above factors were important to the success of the programs, it appears that the most crucial feature of the innovation process was the quality and nature of the leadership. It seems that the district's bureaucratic leaders used the mandate from above as an opportunity to institute innovations in excess of simple compliance with the mandate. Clift (supported by Johnson), with his open decision-making style, involved community members and made those participants feel that their involvement was efficacious. Coupled with the presumption of good faith that these leaders conveyed, this open decision-making style kept intracoalition competition to a minimum, kept it stable, and thus served as a powerful source of support for the innovations.

B. Computer Technology in the Syracuse City School District

Computers can serve several functions in the educational environment. Used in an administrative capacity, they can perform the transactions necessary for smooth fiscal functioning: payroll, inventory, personnel records, and auditing (business functions); and class scheduling, student admitting, grade reporting, student attendance, and transportation scheduling (student-related functions). In an instructional capacity, computer usage can take several forms: computer science courses; computer-assisted instruction (central to the concept of individualized learning for remedial or tutorial purposes); and computer-managed instruction (the ability to monitor, assess, and prescribe for the needs of students). Computers can also be used as a problem-solving tool (e.g., to solve complex mathematical problems) and employed in specialized information management to store and retrieve large quantities of documents (e.g., guidance and occupational information for students).

The Syracuse City School District has had two separate computer facilities: one for instructional purposes at Central Technical Senior High School, and one for administrative purposes at the Data Processing Center. Each is operated separately. The Central Technical facility fulfils the requirements of teaching computer science and computer-assisted instruction for remedial mathematics purposes and to complement the regular curriculum. Computer-assisted instruction was initiated in the district in connection with federally-funded, remedial mathematics laboratories in the schools; and federal funding has been vital to the continuance of computer-assisted instruction. The Special Programs Office of the district helped to prepare the original proposal for funding, and Title I funds have provided the chief source for buying additional terminals for qualifying schools.

The Data Processing Center is under the direction of Richard Satterlee, assistant school business administrator for informational systems. The center batch processes payroll, accounting, and inventory data, as well as student-related data such as attendance, scheduling, etc.

In the Syracuse City School District, computer use was first instituted in the instructional area. (This was unusual because computers generally were bought for administrative purposes and only secondarily used for instruction). The director of vocational education was enthusiastic about introducing new technology for which he could obtain outside funding. One such innovation was to add a course in computer technology to the curriculum of Central Technical Senior

High School, and a computer technology course became part of the curriculum of the school in the 1960s. It was the first such course in Central New York.

During the first three years, the focus of the course was on technical training in the electrical and mechanical operations of the computer. A shift to a focus on software came about, not as a change in educational policy, but because of the nontechnical training of a new teacher taking over the program. Such restructuring of course content might be said to have been fully incorporated into the program offered by Central Tech when an HP2000 computer system, acquired in 1972, allowed an expansion of data-processing teaching. The course continues to be offered as a computer science course for vocational training.

Computer-managed instruction was one of the innovative uses of new technology espoused in the Syracuse campus plan. When this plan was fading from the scene in the late 1960s (partly as a result of its technological innovations), the idea of using the computer for individualized learning in a different fashion was quietly being explored in the city school district. Lawrence Page was very much aware of social conditions impacting on the educational process, in terms of student unrest and educational performance. As a computer science teacher, he sought to lend his area of expertise to coping with these problems. It was at this point that he assumed the role of key entrepreneur for instructional computer use, a role that he has continued to perform within the school district.

With support of a colleague, Page gathered information on computer-assisted instruction and attempted to persuade the school district administrators to institute computer-assisted instruction. It was not until federal funds were available via the state to purchase a more sophisticated computer and, later, to institute a remedial mathematics program that computer-assisted instruction was adopted as an actuality. By the time funds were available, under Title I, ESEA, for the mathematics laboratories, Page had the support not only of the board of education, the top school administrators, the mathematics supervisor, and the Special Programs Office, but also of the Citizens Advisory Council for Title I, ESEA, programs. The support of the latter group was the result of a successful presentation. Implemented as a pilot program, remedial mathematics showed such promising results that mathematics laboratories were established, first, in all of the senior high schools and, later, in all junior high schools and a majority of elementary schools.

By the time a second HP2000 computer system was needed to expand the instructional program, government funds were not available for hardware. With the approval of the State of New York Department of Education, the Syracuse City School District and BOCES jointly purchased the computer that was to provide instructional services to component districts of BOCES. This cooperative effort has continued through the purchase of a third and fourth HP2000 computer, and computer use has expanded beyond remedial mathematics and computer-science teaching.

There seems to have been no controversy about adopting and implementing computer-assisted instruction in the school district. In spite of the furor over the individualized learning proposed in the Campus Plan ("computer-managed instruction"), computer-assisted instruction never developed into the clear format of a policy question. Computer-assisted instruction has been gradually instituted in response to a need to counter declining mathematics competence. The availability of large sums of federal money has created the avenue for computerized instruction; and cooperative efforts with BOCES for computer purchase and computer services has expanded computer use for instructional purposes. With computer systems available, it has been but a short step to begin to use the computer to enrich regular curriculum material and to institute a guidance information program. The school district has thus acquired, rather than instituted, a policy of individualized learning, although on a limited scale.

In the instructional use of the computer in the district, it would appear that individuals, as well as available external funds, have been crucial in its implementation. Edward Lang and Lawrence Page have formed the core around which instructional use of the computer has developed. Since 1974, a small coalition has evolved which generally involves persons directly associated with the education of students (teachers, subject supervisors, a Title I mathematics laboratory coordinator, and, where necessary, a representative of the Planning and Evaluation Department which is the conduit for securing external funding). When plans for a new program are sufficiently developed, the coalition is expanded to include the support of the superintendent and his immediate staff who decide whether to take it to the next level of decision-making: the Syracuse Board of Education.

The key person in this successful coalition has been Page, whose compentence and tenure within the district commands him respect. He has continued to be central to the growth of computer-assisted instruction in the Syracuse City School District, and his philosophies, his mode of operation, and his reputation all have contributed to the direction and rate of expansion of computer-assisted instruction.

Page came into the district as a junior high mathematics teacher. Two years later, he was offered the job of computer science teacher at Central Tech. Page approaches the implementation of new programs cautiously, but he also looks for opportunities. When ESEA Title I money could be obtained to set up a pilot remedial mathematics program, Page was in the right place at the right time. The need and the money coincided.

Page does not consider his methods of achievement as political, and certainly they are not used to bring pressure. He has developed a reputation for technical and educational expertise in the area of computer use. It would seem that this is a major reason for his effectiveness in gaining support from essential people in the decision-making process.

While Page was highly visible in the preadoption stages of computer-assisted instruction, he maintains a low profile during the decision-making stages on adoption and implementation. However, he is still important to the entire process. He deals with vendors, and he talks to BOCES' representatives, along with the executive associate superintendent for school services. He also was a member of the District Committee on the school-district/city/county merger. Page currently serves on an area Computer-Assisted Instruction Committee sponsored by BOCES, a subcommittee of BOCES' Joint Management Team. This committee is looking at what is being done in computer-assisted instruction elsewhere and what is feasible in the city school district.

There has emerged no clear picture of the process of decision-making to buy the initial computer in 1965, other than that the acquisition of a computer for administrative needs was a response to what Franklyn Barry called, "a felt need." This is likely a reflection of its being an administrative decision rather than one of policy. A new tool was needed to more effectively deal with the increased routine workload, and only the cost of the computer might have distinguished this decision from those decisions regularly made by the chief school administrators. If the funds were available, it would be unlikely that conscious coalition-building would be necessary or that controversy would be present.

Computer use was adopted and implemented in 1965 and has imperceptibly become a standard mode of operation for the administrative staff of the school district. Business functions seem to have been routinely added to the list of uses of the computer, and no individuals have emerged as principal actors on the way to routinization of business applications.

Increasing the innovative uses of the computer has sometimes run into difficulty in the area of student-related management. The administrators of the school district soon recognized that information processing pertaining to management of the student body was a recurring, demanding, and growing task, the burden of which could be facilitated by computer use. Even before the district acquired a computer, some scheduling was run on the Syracuse University computer. Acquiring its own computer meant that the school district could implement additional programs to cope with informational needs. However, it was not until 1971, when the expertise of Richard Satterlee was brought in to build up a student data base, that computerization of student data became fully incorporated into the commitment of the school district to deal most effectively and efficiently with burgeoning informational requirements.

Test scoring, attendance reports, and a secondary school reporting system have all been computerized, and plans exist to expand the reporting system and upgrade the attendance record to be more timely. While these programs have proceeded fairly smoothly, two other innovative uses of the computer have not. When the program for computerized scheduling was expanded to remove the responsibility of building the master schedule from the building administrators, there was resistance on the part of most building administrators to incorporating this feature in the scheduling procedures. The school district has struggled to successfully implement bus scheduling by computer in the school district. Twice, limited resources have been committed to searching outside the district first, for a solution to the transportation problem. With the effort, they reached the point of adopting and attempting to implement a transportation program and found it mainly unworkable. In-house attempts to implement a successful computerized system have not fared much better on the whole. Implementation has been hampered by variables outside the control of the city school district administrators.

The restructuring of the functions of business and student-related data processing is not part of a decision-making process of innovating. However, this merger is of interest because of the alignment of persons and needs which necessitated a compromise and the fact that the decision-making process on realignment of computer use was similar to that for innovating in an educational environment. Awareness of a need for long-range planning in the area of computer use was stimulated by Fowler Senior High School's request for its own minicomputer and was further highlighted by a survey of teachers' needs. A search for a solution was conducted by the district committee which consisted of: Page and Satterlee; two top administrators, the executive associate superintendent for school services and the assistant to the superintendent; and district personnel representing a cross-section of school district departments.

The search involved vendor presentations and cost analysis and culminated in committee recommendations to the Syracuse Board of Education to purchase the HP3000 both for administrative functions and for student-related functions. The recommendations of the committee failed to be adopted by the board because the city and county had joined forces to persuade the board to switch all of its administrative functions to the county computer.

A Chamber of Commerce committee searched for a solution to the impasse. Its compromise proposal was adopted by the Syracuse Board of Education: the county, via the city, would take over the business data processing and provide on-line capability, and the city school district would buy a less-sophisticated computer for student-related data processing. The retention of student-related management was influenced by the fact that the county could not readily provide a student software program compatible with its computer system.

The division of administrative functions into two separate entities is now being implemented, as staffs and procedures are being reorganized. The merger has been accepted _de facto_. However, it is likely that an extended period of actual operation will be necessary and concerns of some district personnel need to be allayed before external data processing will be incorporated fully into the routine operations of the city school district.

C. The House Plan in the Syracuse City School District: Managerial Innovation in a Single School

The House Plan was an organizational and managerial innovation introduced into Roosevelt Junior High School in 1967-1968 by a group of school administrators and teachers. At that time, Syracuse's educational system and Roosevelt School, specifically, were caught in the turmoil of the late 1960s, with its campus disturbances, urban riots, and race problems. Roosevelt School was approximately sixty percent Black and forty percent White and other races; and the school was plagued with truancy, a severe annual turnover in teaching personnel, some violence, and a general climate of social unrest. This climate prompted a group of Syracuse educators to meet in a summer workshop on the Continuous Progress Program (CPP), funded federally. The CPP approach was a graduated program of instruction allowing substantial individualization of instruction based on the needs of each student, and the summer workshop specifically focused on this approach to mathematics, one of four content areas in the junior high curriculum. The basic concept for what was later to be the House Plan derived from this workshop, when a teacher argued that CPP's objectives could not be achieved in mathematics. That is, students coming from the sixth grade could not be injected into the junior high school curriculum at points appropriate for their individual development; rather, they had to begin in the seventh grade at a fixed point in the curriculum, with all other students.

As a result of this challenge, Jack Weaver and Pat Leo, two instructional specialists involved in the workshop and also working at Roosevelt (Weaver was vice-principal for instruction) sought to individualize instructional packets for each student in one mathematics class at Roosevelt. As the approach gained acceptance, it spread to the entire mathematics department. However, discipline problems remained severe; and teachers, students, and administrators called for a new thrust which would create smaller instructional groups with greater emphasis on students' individual interests. This pressure to restructure the mathematics department led, in turn, to serious consideration of restructuring the entire school curriculum. Several ideas concerning this reorganization eventually contributed to the final development of the House Plan.

The final design of the House Plan constituted a managerial and organizational change, with no fiscal or physical changes required at Roosevelt Junior High School. In short, the House Plan involved division of the entire school into discrete groups (houses) of students working in an interdisciplinary environment at individual paces under the CPP approach. Each grade level was divided into two houses of approximately 125 students each, with each house then divided into classes of 25 students and with each teacher handling individual classes in a separate area. This subdivision of students permitted easier homogenous groupings of individuals at similar stages of progress, while also permitting students making rapid progress to be advanced from one house to another during the school year. The physical plan of Roosevelt lent itself quite well to this arrangement, which facilitated ease of movement from one classroom to another for subject changes and minimized turmoil in the school corridors.

The most striking innovation in the House Plan was that, as students progressed each year from grade to grade, their teachers moved with them to teach the same content area in the next year. When the ninth grade graduated, teachers began the cycle again, returning to the seventh grade level. Further, administrative and support services were provided in the same manner, with the school's principal and two vice-principals moving with each "floor" or grade.

Initial response to the new arrangement was favorable, with only ninth grade teachers resisting the idea somewhat. They viewed themselves as high school teachers and did not want to be rotated back to the seventh grade every three years. This initial resistance was resolved shortly, however, through the efforts of one instructional specialist and through the peer pressure of seventh and eighth grade teachers.

The effects of the House Plan gradually became apparent. Interdisciplinary staff meetings within each house enabled all house teachers to discuss mutual programs daily and permitted substitute teachers to familiarize themselves with the operation immediately. The use of a planning period also provided parents an opportunity to meet with all of their children's teachers at one time, and parents were encouraged to attend these meetings. As implementation proceeded, one notable modification was made: a "contained classroom" was set up to deal with the small number of students with learning and behavioral problems who were not adjusting well to the program's flexibility. Redeployment of guidance counselors to individual floor assignments and inclusion of the counselors in the house-planning sessions solved several problems. No longer could students manipulate the system in terms of skipping classes by alleging that counselors had reassigned them to other classes; nor could they thereby avoid certain classes or maintain disruptive cliques. Scheduling became a joint decision of both teacher and counselor.

Less immediately felt effects of the plan were perceived by teachers after the first year. Student involvement in school activities and enthusiasm for education increased, and teacher morale improved. Tardiness and truancy showed substantial decline. Parent-teacher conferences became routinized rather than arising from the necessity of discussing a student's performance or behavior. Finally, the faculty perceived a new freedom of administrators to interact with teachers, apparently the direct outgrowth of the physical reorganization, the assignment of individual administrators to individual grades, and the interdisciplinary team approach.

A number of personnel changes at the administrative level did not threaten the existence of the House Plan; but, during its second year of implementation, substantial modification occurred. In general, a series of procedures were instituted, designed to increase organizational controls and produce a clear hierarchy of authority in a tightly regulated "horizontal" organization. These procedures applied to the structure of managerial responsibilities, the structure for dealing with disciplinary problems, and parent-teacher contacts.

The House Plan is a fully incorporated innovation of over ten year's standing. It has endured initial design, adoption, implementation, and incorporation, with feedback all the while, prompting modification of several of its component parts. However, the concept has not been transferred to other settings. Speculation as to why this is so points up the dual purpose of the plan as it was originally conceived and as it was eventually modified. An intended goal of the plan was to provide a graduated transition for grade school students into the middle school and high school environments. Once implemented, however, the plan required modification by means of managerial techniques which, in effect, created a protective environment for the student in which disruptions of educational activities were minimized. These students were then to be sent on to the relatively unbuffered high school environment. If the program is effective in achieving short-term educational goals through closed organizational techniques, therefore, the question of long-term educational goals still remains. Accordingly, the House Plan may continue to stand as a unique, incorporated innovation lacking full integration into the overall educational structure of the Syracuse City School District.

D. Magnet Schools in the Syracuse City School District

In Syracuse, the magnet school has been defined as a program "which attracts and keeps students based on the sharing of common interests."[31] The district now supports two magnet schools, although the circumstances surrounding their establishment have perhaps less to do with educational philosophy than with a state-mandated requirement for integrated public school education.

In 1976, the Commissioner of Education of the State of New York ordered the Syracuse Board of Education to develop a plan to integrate its elementary schools, the plan to be submitted within roughly two months. From the time of that order, the events which moved toward development of that plan and toward the establishment of the first magnet school moved swiftly. Public sentiment against any notion of forced integration through busing was immediate and strong; and, over the next few months, the numerous plans submitted to comply with the integration order drew much attention. Magnet schools, however, initially were mentioned only in passing. The real attention was focused on the possibility of forced busing for the city.

Initial consideration was of a Mandatory Integration Triangle Plan, which involved linking three elementary schools together by busing in an experimental triangle. By summer 1976, Syracuse was preparing for the pilot phase of this plan, although anti-busing sentiment and response to that sentiment continued to be strong.

Although the pilot phase of the Triangle Plan was put into action with the start of the 1976-1977 school year, a new superintendent of schools, Sidney Johnson, had recently taken office and was making it known that he had other things in mind for Syracuse than the "forced busing" Triangle Plan. With the Triangle Plan destined not to survive, with Johnson committed to alternatives to forced busing, and with ten elementary schools having recently been closed to "ease integration," the future shape of the district was still quite unclear as of December 1976, with a myriad of plans still being discussed.

In early 1977, the Syracuse Board of Education and Johnson began to scrap the Triangle Plan. Countless discussions, plans, and meetings occurred among parents, teachers, and administrators in attempting to arrive at a viable solution, which now appeared destined to revolve around a Quadrant Plan. The Quadrant Plan was to achieve integration through enrollment options, school closings and consolidations, redistricting of attendance areas, and, eventually, magnet schools.

At a difficult and landmark meeting of the Syracuse Board of Education at which the closings of several schools were discussed, public sentiment against the closing of one particular school, Danforth, arose. After that meeting and at a loss for a solution for Danforth, Superintendent Johnson made a swift and crucial decision to try a magnet school at Danforth as a means of keeping the building open. Although Johnson and Balmer and his associates at the Special Programs Office had been heretofore aware of and informed on the issue of magnet schools, they were never strongly or seriously considered until the crisis over Danforth. Prior to that crisis, Johnson had been interested in magnet schools, while Balmer and others had maintained a skepticism as to their workability.

With Johnson, Balmer, and some of the Special Programs Office staff already informed on magnet schools, however, the resource was there for Johnson to draw upon when faced with the following dilemma: a racially imbalanced Danforth School which would not be closed due to public sentiment; the commissioner's order for integration still demanding compliance; and the opening of the school year only three months away.

Johnson moved quickly to inform Danforth Principal Eugene Hannah that the magnet school would be tried at Danforth, and Balmer's Special

Programs Office proceeded to design the plan for Danforth and to prepare the proposal for federal funding for the project. As the Special Programs Office worked to accomplish these two things in a short time, Hannah, Danforth staff, and concerned Danforth parents joined in swift action to prepare the school for its opening in September; and widespread publicity eased the opening of Danforth. Although the proposal for federal funding was not submitted until August 1977, it was accepted and funded.

With Danforth serving as an example of a workable magnet school and with more time to spare, the adoption and implementation of McKinley-Brighton as a magnet school went considerably more smoothly. Even though this second magnet project was also implemented quickly, it was done with more research (a survey to determine citywide interest in another magnet program) and with more time between proposal writing and the beginning of the school year.

The same coalition which had so quickly and so successfully created the Danforth magnet also guided the process of McKinley-Brighton's transformation, although the curricula of the two schools are quite different.

In a sense, the Syracuse magnet schools case is an example of adaptive innovation," or "innovation from above." The legal mandate, the commissioner's order, was firm. The district's issue was how to comply with that order in the smoothest, fairest, most reasonable, and effective way possible. Given the racial overtones of the issue, dissent was strong and widespread; and considerable skill in leadership and coalition-building was required of entrepreneurs Johnson and Balmer and their associates.

Nevertheless, once the first magnet was created, it had a "demonstration" effect on the creation of the second magnet at McKinley-Brighton School. Further, there was a residual effect in that the innovation coalition from the creation of the first magnet carried over to the second.

Finally, the "natural" deadline created by a school term, a factor not characteristic of most noneducational fields, acted to increase the momentum of the innovation decision-making process, forcing quick decisions and swift action.

E. Metropolitan World of Inquiry School (Part of the Urban-Suburban Interdistrict Transfer Program (USITP) in Rochester/Monroe County)

A major component of Project Unique was the World of Inquiry School, established in Rochester as an early magnet-type school to offer quality, innovative, educational opportunities and to foster racial integration by attracting students from various city and suburban school districts. In the early 1970s, Gross broached the idea of a

Metropolitan World of Inquiry School to the Department of Health, Education, and Welfare, with the idea that the school be a "neutral-site," integrated school patterned after the World of Inquiry School and offering an alternative to regular school programs. The student ratio was to be approximately 40 percent minority students from Rochester and 60 percent students from participating districts. Receiving encouragement from DHEW, Gross proceeded to make plans for funds on behalf of itself, the city district, and other suburban districts, and for securing tentative approval from district administrators. to rent an unused building in Webster if funds were approved.

Once funding was approved, however, two problems surfaced: the Webster Board of Education was undecided about which of two buildings to rent to the new school; and no participating school district, including West Irondequoit, wanted to be responsible for actually running the school. After community opposition arose to the idea of using an already occupied building and transporting students to it, the Webster Board of Education finally decided to lease the unused building as planned. However, none of the participating districts, including Webster, wanted to run a school in someone else's district. As a consequence, the Board of Cooperative Extension Services (BOCES) was asked to run the school. Following receipt of legal permission from the State Department of Education, BOCES finally agreed to operate the school.

Another problem arose, however, when Gross attempted to have William Pugh, principal of the World of Inquiry School, serve as principal of the new school for a period of time. BOCES was not agreeable to this arrangement, nor were Pugh and his staff granted the necessary leaves of absence to help start up the school. Eventually, this dispute centered about whether BOCES or West Irondequoit, as LEA, would be responsible for monitoring the school. The ESAA citizens' advisory committee then insisted on a voice in who was to be principal. Following interviews with potential candidates, it later endorsed BOCES' second choice.

Administrative problems were followed quickly by financial ones. As part of a revision of its guidelines on program funding, DHEW eliminated the category of metropolitan area programs under which USITP, including the Metropolitan World of Inquiry School, had received ESAA funds. After a series of reapplications for funding and subsequent rejections (ostensibly for technical, economic, and political reasons), it was clear that the threat of termination of the entire USITP program existed; and political and legal pressures, including a suit by six Rochester residents against DHEW, ensued.

Ultimately, in June 1974, funding was approved, although the final figure represented substantial cutbacks. However, with the help of unspent funds from the previous year, the school continued to function at about its same level.

In the process of the funding negotiations, the entire USITP program had had its funds cut severely; thus Gross, as administrator of USITP, was forced to make a decision between continuing either the longer-term transportation of minority children to receiving suburban districts or to continue the Metropolitan World of Inquiry School at previous levels. To do both was impossible. Reluctantly, Gross limited enrollment in the Metropolitan World of Inquiry School, and the school shifted to smaller quarters in West Irondequoit. The following year (1976), the Metropolitan World of Inquiry School was phased out due to lack of funds.

F. Paraprofessionals in the Syracuse City School District

The roots of paraprofessionalism in Syracuse can be traced back to 1958, although the first paid teacher aides were not actually hired until 1964. Syracuse University's Youth Development Center (a center funded by the university, with eventual funding from federal and private corporation sources) became interested in the concept in attempting to deal with culturally disadvantaged children in Syracuse's inner city. Students had special needs, and teachers often lacked experience in dealing with the problems of educational and cultural disadvantage. As a solution, the Madison Area Project was instituted with the help of Ford Foundation funds, school district funds, and New York State Department of Education funds. One component of this project, the school volunteer program, was a clear forerunner of paraprofessionals in Syracuse classrooms. In the first two years, about 200 individuals donated time to the district to perform mostly clerical duties for teachers, with the emphasis mainly on creating spare time for teachers to plan.

In its third and last year, 1964-1965, the Madison Area Project underwent organizational changes. Its major funding source changed from private to public federal, it was renamed "Syracuse Action for Youth," and it became administered by a newly created office in the district, the Special Programs Office. Harry S. Balmer, as leader of the former Madison Area Project, became education director for Syracuse Action for Youth and, shortly thereafter, became head of the Special Programs Office. With new funding, the project was expanded to include seven additional schools, the programs were continued and strengthened, and, at the start of the school year, the first five teacher aides were hired. The specific origin of the idea to hire teacher aides is unknown, but Balmer was certainly instrumental. He and his staff were aware of the use of paraprofessionals elsewhere, and the idea probably was a combination of input both from the director and from the staff. The experience with school volunteers bolstered the decision, although the decision itself was a quiet one, made in the context of a large-scale program whose components eventually were absorbed into the district's Title I program. It was, therefore, not a major decision, and it was not seen as introducing a major change in itself. No doubt this aided in smooth implementation of the concept. It sparked no controversy and required neither the specific approval of the district superintendent nor of the board of education. However, this small-scale program laid the groundwork for hiring large numbers of paraprofessionals in the next decade.

In the 1960s, paraprofessionals in Syracuse were utilized mainly in a supportive role and had little direct student contact. The view of the Special Programs Office was that aides would relieve teachers from nonprofessional tasks, allowing teachers more time for individual attention to students and freeing them for more effective planning and inservice training. Further, the district assigned paraprofessionals to schools in their neighborhood in the hope that the neighborhood environment could be improved through increased employment and closer home-school links.

With these goals in mind, the community received the program well, both inside and outside the school district. There was little opposition from teachers, who were happy to be relieved of some of their tedious duties, and the neighborhoods received the aides well. Only in one district program, the pre-kindergarten program, were paraprofessionals used as more than clerical aides. Here, the aides worked very closely with teachers, helping to set up the learning environment, plan, and communicate with parents.

As the number of aides increased, however, the duties of all aides began to evolve. Aided by a series of New York State mandates which imposed guidelines on the duties of paraprofessionals, paraprofessionals began to perform much more than clerical services. Administrators in the district, having been actively involved in compensatory education for years and convinced of paraprofessionals' usefulness, fully accepted this evolution in their duties. However, some resistance by teachers was encountered at this point. While most teachers welcomed clerical help, probably half were suspicious of any direct role by paraprofessionals in instruction. Many teachers felt directly threatened, viewing paraprofessionals as spies. Even so, the problem never became serious enough to impede Title I programs. Viewing it largely as a morale problem, the Special Programs Office conducted a low-key campaign among teachers at teachers' workshops and training sessions, asking teachers to view the aides as tutors, nor professional instructors. With the passage of time, the problem eventually evaporated. Paraprofessionals in their instructional role are now almost completely accepted by teachers, a mark of the success of the program.

There can be little doubt that incorporation of the paraprofessional concept has occurred, with a caveat. Paraprofessionals are no longer an innovation or experiment, but rather are accepted as an organizational fact by administrators, supervisors, and teachers. The caveat is that paraprofessionals still do not enjoy the full status of professional teachers. As a result, they are the ones most likely to be laid off in a budgetary emergency; and, even though the district has shown its willingness to support some paraprofessionals with district funds, such support is, by necessity, limited.

The Special Programs Office is vitally important to the incorporation of paraprofessionals in the district. The overwhelming majority of aides has been associated with funded programs within the Special Programs Office's control. The office writes the proposals for funding programs utilizing paraprofessionals and exercises nearly full policy control over them. In addition, the office has long been committed to urban, or compensatory, education and, from these roots, derives a firm commitment to the concept of paraprofessionalism. The experience of this office and its commitment ot the paraprofessionals has probably delayed the erosion of paraprofessionalism in Syracuse at a time when the concept is suffering at state and national levels. It has searched for additional means for sponsoring paraprofessionals when faced with teacher surplus, budgetary stringencies, and declining enrollment; and the district has even spent less money on materials in order to support paraprofessionals, where it was allowed by grant authority to do so. Further, when Title I funds decreased, the Special Programs Office reduced the number of days of employment for each paraprofessional, and the district has stepped in at least once and paid paraprofessional salaries.

Two major effects of the use of paraprofessionals in Syracuse can be noted. Paraprofessionals' supervisors argue that the aides have contributed a great deal to improvement in urban education, pointing to yearly improvements in standardized reading scores and other measures of academic achievement. Administrators also believe that the improved communication between the schools and those they serve, which they attribute, in part, to paraprofessionals, has increased school district support in the community and has reduced racial tension.

If paraprofessionals eventually suffer in Syracuse, it will not, therefore, be due to lack of district commitment to this incorporated innovation. Rather, other needs, in particular the maintenance of teachers, will be deemed a higher priority.

G. Residual Effects of the Campus Plan in Syracuse, New York: 1966-1978

The Campus Plan was never adopted by the Syracuse City School District. Since its demise, however, many of its elements have been adopted by the district, sometimes with modifications. The Campus Plan was designed to stimulate racial balance, improve instruction on the elementary level, and solve the problem of deteriorating physical plants. The residual effects of the Campus Plan can be seen in subsequent attempts by the district to find solutions to these problems.

In 1977, the district adopted a plan to achieve racial balance in the district. Known as the Quadrant Plan, the design for a long-range solution to racial imbalance was similar to the Campus Plan. Under the Campus Plan, each quadrant of the city would have had only one elementary campus. Under the Quadrant Plan, consolidation was not as extensive, but ten schools were closed, reducing by one-third the number of elementary schools in the district.

Schools were closed based upon their physical condition. Two elementary schools, built since the failure of the Campus Plan, have been designed along the open-school concept proposed for the schools in the Campus Plan. Thus, the Quadrant Plan helped to solve two problems formerly addressed by the Campus Plan: racial imbalance and deteriorating physical plants. It is in the area of elementary school instruction, however, that the majority of residual effects of the Campus Plan can be observed.

One of the key instructional innovations proposed in the Campus Plan was individualized instruction. In the Campus Plan, this innovation was closely tied to computerized instruction and dial-access information. The latter technological innovations have since been adopted in only two schools, while the concept of individualized instruction has spread to fifteen of the twenty-two elementary schools in the district. Adoption of individualized instruction was relatively easy, primarily because its advocates successfully separated it from its accompanying technological innovation and because it has apparently met a need, as perceived by administrators and teachers on the building level.

Team teaching and planning, under the Campus Plan, were means to achieve individualized instruction. Team planning has been widely adopted; team teaching, less so, but not insignificantly. In most elementary schools, teachers are freed from other responsibilities, at least for the purpose of team planning.

The use of instructional specialists was also an important part of the Campus Plan. As the district's supervisory staff has declined in size, the district has begun to rely more extensively on the instructional specialist to bring new ideas to the classroom teacher. There are instructional specialists in such subjects as mathematics, science, and reading, assigned on a full- or part-time basis in all of the elementary schools.

Other instructional elements of the Campus Plan have been adopted by the district. A chart of these innovations and their distribution can be found on the following page.

A final residual effect of the Campus Plan is the growth in strength and importance of the Special Programs Office of the district. An outgrowth of the group that worked for two years on the development of the Campus Plan, its present focus is the preparation of proposals for federal and state funding of special school programs, their operation, and evaluation. The primary advocate of change in the district is still the superintendent, as was the case with the Campus Plan. The Special Programs Office provides the technical knowledge of grants development to obtain necessary funds to carry out the policy of innovation in the district.

Table 8

CAMPUS PLAN INNOVATIONS IN USE
SYRACUSE CITY SCHOOL DISTRICT ELEMENTARY SCHOOLS

SCHOOLS	TOPICS								
	Individualized Instruction	Computerized Instruction	Dial-Access Information	Multi Approaches to Reading	Interest-Centered Programs	Open School Concept	Team Teaching/ Planning	Media Centers	Community Participation
Bellevue	X			Distar		X			
Danforth					Magnet		Teaching		
Delaware	X			X				X	
Elmwood	X								
Franklin	X				X				
Frazer	X			X					
Hughes	X			X			Both		
Huntington									
Hyde							Both		X
King				SRA			Teaching		
Lemoyne									
McKinley-Brighton		X			Magnet		Planning		
Meachem	X			X	X		X	X	X
Porter									
Roberts	X			X	X	Some Grades	X	X	X
Salina									
Seymour	X						Planning		
Smith, Edward	X			X			Both		
Smith, H. W.	X	X		X	X		X	X	X
Van Duyn									
Webster	X			X	X				X
Weeks	X					X	X	X	X

H. Residual Effects of Project Unique in Rochester, New York: 1970-1979

In this case study, we attempt to identify and analyze the residual effects of a large-scale, multicomponent, innovative educational project called "Project Unique" (United Now for Integrated Quality Urban-Suburban Education). This project was designed, adopted, and implemented between 1965 and 1970 by the Rochester City School District, Rochester, New York. It received national attention during that period because it was considered to be one of the most comprehensive urban educational programs financed by Title III of the Elementary and Secondary Education Act of 1965. The broad goals of Project Unique were to reduce racial imbalance and to improve urban education.

In previous research for the National Science Foundation, we documented the design, adoption, and three-year implementation stages of Project Unique from 1965 through 1970. In this case study, we attempt to document the more recent developments: incorporation, routinization, and any residual effects that can be attributed to Project Unique.

> From its inception, Project Unique enjoyed a semiautonomous status within the Rochester City School District. This relative freedom from jurisdictional disputes and bureaucratic control permitted a very flexible approach to the problems of urban education. Frequent adjustments were made to meet new needs and to eliminate unsuccessful programs.[32]

For the three-year trial implementation, Project Unique received about $4.5 million in Title III funds. Of the twelve original components in the first proposal submitted by the school district to the U. S. Office of Education in 1967, nine were approved and funded for the three-year period. In addition to the administrative unit (CCAUE), two of the major components included the World of Inquiry School (WOIS) and the Urban-Suburban Interdistrict Transfer Program (USITP). Other program components included the Urban Education Major Program, the Community Resources Workshop, the Teacher Program, RISE (Right of an Individual to Secure an Education), SPAN (School Parent Adviser to the Neighborhood), the Teacher Internship Program, the Community Resources Council, and Sibley's Satellite School.

After 1970, when Title III funding for Project Unique ended, essentially only two of the original nine components continued to function intact: the World of Inquiry School and the Urban-Suburban Interdistrict Transfer Program. The rest of the programs either were terminated or merged with other programs.

The analysis of Project Unique, both for the National Science Foundation and for the National Institute of Education, provided data on a set of educational innovations at each of several decision-making stages: problem formulation, design, adoption, implementation, stabilization, and institutionalization. In addition, data was gathered on the residual effects. Thus, the case spans a period from 1965 to 1979. In the period between the termination of federal funding in June 1970 and the inclusion of the World of Inquiry School into the Rochester City School District budget in 1974, the funding for Project Unique was very unstable. Short-term grants were obtained from several private sources, including the Rockefeller Foundation, the National Science Foundation, local industry and organizations, and the U. S. Office of Education. During this time, the community and staff support was sustained until eventual institutionalization. This testing period appears to be a sort of "stabilization phase." If WOIS had faltered or had lost a significant degree of support or interest, would it have ever stabilized? After passing through the interim phase, the World of Inquiry School was eventually institutionalized into the operating school district budget. What remained from 1974 to the present was the mechanism called Project Unique, Incorporated (PUI).

The experience of Project Unique supports the hypothesis that innovation is dependent, in part, upon the capacity of local entrepreneurs to develop coalitions of sufficient strength to overcome various organizational and institutional barriers.

As the plan for Project Unique developed, it contained several types of innovations: new organizational structures; new mixes of clients; new sources of funding for programming; new administrative arrangements; technological hardware for the classroom; unusual settings for instruction; and new professional and paraprofessional roles. For most of these innovations, outside funding from Title III was obtained. From 1965 to 1971, the administrative entrepreneurs used several strategies to demonstrate the value of these innovations: Sibley's downtown Satellite School; national exposure on NBC's Today Show; newsletters; extensive public relations efforts; and the World of Inquiry model school. Many of these components were used to build a coalition of support through "mini-decisions" that would facilitate the bigger decisions (i.e., racial integration and the adoption of educational innovations at the district level). Project Unique originally was designed to demonstrate that racially balanced, educational programs can work successfully. From 1974 to the present, Project Unique, Incorporated, has pursued far less ambitious objectives. It appears to have shifted its focus from facilitating bigger decisions to sponsoring less controversial educational projects. In recent years, PUI seems less certain about its role and purpose in relation to the Rochester City School District.

In the period from 1965 to 1971, the role of entrepreneur appeared to be played by several actors, but chiefly by Superintendent of Schools Herman Goldberg and Project Unique Director William Young. Here, the management style of the entrepreneur may be an important variable. In Rochester, Superintendent Goldberg characterized himself as an incrementalist, as being aware of the public relations impact and the role of the media, and as goal-oriented. Both of these men were keenly aware of the need for building coalitions and encouraging broad-based representation in most phases of the project's development and implementation. They felt that they and their staff members made personal linkages with major corporations, universities, the media, state agencies, and federal officials to facilitate the implementation of the project. From the result of personal interviews, the superintendent appeared to see his role as a change agent, but not for change per se. He viewed change as a process of incremental, deliberate steps to provide a sense of continuity of services. Goldberg saw Project Unique as a series of steps in itself, yet a very visible part of a larger process of achieving racial balance in the schools. William Young, the director of Project Unique from 1967 to 1970, saw the need to focus on racial balance among staff and clients served by the training components of Project Unique. The schools were imbalanced with regard to faculty as well as students. Young also developed an incremental strategy for building support with local industries for eventually continuing Project Unique after federal funds terminated.

In interviews conducted in Rochester from fall 1976 to winter 1979-80, data indicate a general lowering of expectations for what Project Unique can accomplish. During the 1960s and early 1970s, innovation was in the air. There was a higher level of excitement, a greater degree of involvement and participation in all activities related to Project Unique. Whether Project Unique, Incorporated, can be revitalized is an open question at present. It exists as a residual of a once-active, large-scale, innovative project. Where will it go? What should it do? What are its options?

The future of Project Unique, Incorporated, is uncertain. Perhaps one of the options will successfully bring new life to this project. If our central hypothesis is correct, then the revitalization of Project Unique is dependent, in part, upon the capacity of local entrepreneurs to develop coalitions of sufficient strength to overcome various organizational institutional barriers.

I. Urban-Suburban Center for Innovation in Education (Part of the Urban-Suburban Interdistrict Transfer Program in Rochester/Monroe County)

The Urban-Suburban Center for Innovation in Education (USCIE) came into existence as an adjunct of the Urban-Suburban Interdistrict Transfer Program (USITP). A Campus School at SUNY Brockport was in existence at the time, serving as an "in-house" setting for students training to be elementary teachers. When federal funds became available to support USITP, Norman Gross, administrator of USITP, approached university administrators and the Campus School's principal with the idea of including the school in USITP. His chief argument was that the student teachers at the Campus School were not being afforded a "real world" teaching experience and that, with the increasing research orientation of the school, groups of all-White students were not serving as representative samples for research purposes. The principal and his superiors supported the idea, and, during the summer and fall of 1966, the school got underway with 32 elementary minority children full-time in the fall. In 1967, federal funding enabled the school to hold the first of several institutes on desegregation for educators.

The school's enrollment of inner-city students waxed and waned from 1967 to 1975, according to increases or decreases in available Project Unique funding. (USITP was part of Project Unique.) In early 1976, State University of New York trustees closed their eight remaining campus schools, including the one at Brockport. At the time, however, Gross had managed to acquire additional funding for the Campus School by encouraging the incorporation of features of the World of Inquiry School model (a previous innovation), and he used these funds to keep the school intact. The proviso for this arrangement was that the school be designed to serve as a model of a quality integrated elementary school for urban-suburban areas, and its new name was suggestive of this. Although technically a part of USITP since 1966, this new, complete identification with the urban-suburban program (USITP) split the staff into factions and drew Black and White parents into the debate.

In the end, economics prevailed, since it was clear that the school could not survive on the limited funds from the university at Brockport. Thus, the school was adapted to a pattern of "open" education modeled on the World of Inquiry School, and it is now an integral part of USITP, as are the other receiving districts.

Eventually, the Campus School's participation in the urban-suburban program was used by Gross to persuade Brockport Central School District to also become part of USITP. Community interest in this potential association emerged during the debate over whether Brockport Central should take minority children. However, with support from the State University of New York, church groups, and others, Brockport Central finally agreed to accept children who had completed elementary grades at the Campus School. Together, these two arrangements have enabled minority children to continue through middle school and high school to complete their education.

J. Urban-Suburban Interdistrict Transfer Program: Project US in Rochester/Monroe County

In 1963, the New York State Commissioner of Education required every school district in the State of New York to examine and report its racial balance. As a result, the City of Rochester was compelled to institute a program of desegregation. The West Irondequoit Central School District, a primarily White, middle-class, suburban district adjacent to the City of Rochester, responded by offering a voluntary program of integration. Rochester's Open Enrollment Plan was offered as a voluntary program whereby students could apply to transfer out of their home districts into another school district within the city. West Irondequoit, with essentially no problem in terms of racial balance, nevertheless was not content to ignore such problems within the educational system at large. The West Irondequoit Board of Education's consensus was that the City of Rochester/suburbs dichotomy was a situation in which there was racial balance in reverse and that, as representative of a suburban district, it should act in this area of social concern. It foresaw benefit to the suburban district by having minority children brought into the school district, its reasoning being that an "integrated" school environment could affect attitudes and break down stereotypes, while promoting the dignity of each individual.

Committed to this philosophy, the Board of Education of West Irondequoit tok formal steps to adopt an interdistrict transfer program and, with Rochester, to plan for its implementation. Numerous, carefully planned meetings were held betwen the board and other community groups--teachers' associations, parent-teacher associations, parents' organizations, and churches--to acquaint them with the board's plans, although negotiations and meetings were at first conducted quietly and were not well-attended by the public.

Once the plan was passed, a public announcement was made by way of a newsletter to each district resident. Receipt of the newsletter brought vehement opposition, however, much stronger and more emotional than the board had anticipated. Opposition formalized, charging that the decision was made in secrecy and would have an adverse effect on the neighborhood concept. A call for a special referendum on the issue was rejected by the board, and the opposition began to vote in board members opposed to the plan and defeat those in favor of it. Further, an appeal was filed with the New York State Commissioner of Education charging the board with secret sessions and challenging the rejection of the referendum request. Finally, a citizens' committee of West Irondequoit brought suit as private individuals in the New York State Supreme Court in an attempt to secure an injunction blocking the intended busing of the 25 students into the West Irondequoit district.

The injunction was denied; the commissioner dismissed the appeal; and, in spite of the emotional climate in the district, the school year opened without violence. Later, the State Supreme Court upheld the legality of West Irondequoit's open enrollment policy, and the Appellate Court upheld this decision. Political pressure continued, however, as opponents of the program turned again to the elective process for redress, both in board of education elections and in votes on school budgets. Eventually, however, the enormous intensity of the issue began to diminish; although, for several years following the adoption of the Intercultural Education (ICE) program, it continued to be in jeopardy when the question arose of how many new children should be allowed in.

The extension of the urban-suburban transfer concept to other districts combined with several other factors to place ICE on firmer footing. As administrator of the Rochester City School District's Open Enrollment Program back in 1964, Norman Gross moved on to become administrator of the Urban-Suburban Interdistrict Transfer Program; and his opportunity in that post, together with his firm commitment to integration as a positive educational experience, enabled him to build upon the innovative program that West Irondequoit had initiated. The year after West Irondequoit accepted its first students, the suburban district of Brighton and the Campus School at SUNY Brockport invited elementary students to attend their regular day schools. In addition, one of the nine components of Project Unique became the Urban-Suburban Interdistrict Transfer Program, and it is said that the successful implementation of the West Irondequoit receiving program was the basis for the design of this particular component.

The primary objective of USITP was to implement and administer programs designed to reduce racial isolation in Monroe County, including the City of Rochester. Gross was also to act as administrator of this component of Project Unique, which generated a great deal of interest in Rochester and its suburbs, no doubt because of its innovative approaches and the large federal sums available to implement such programs.

While district officials in Rochester encouraged suburban districts to join the program, opponents were not adverse to crossing school district boundaries to be heard. Proponents struck back, however, through student groups and the like, in order to convince suburban districts to join the program.

Loss of some Title III funds in 1970-71 meant that USITP had to turn to other sources. The New York State Division of Intercultural Relations, State Urban Education, and the Rochester City School District were able to see the program through until Gross was able once again to obtain Title III federal funds supplemented by State Urban Education. In 1973, administration of the program shifted to West Irondequoit in order to make USITP eligible to receive certain federal monies. This situation remains, with West Irondequoit acting as the Local Educational Agency (LEA) under primarily ESEA funds.

USITP is now commonly referred to as Project US, a change in nomenclenture instituted in an attempt to counteract the "we" versus "they" dichotomy of city and suburb, Black and White. However, the events of the past year have not been conducive to expanding the program or to promoting harmony in either of these areas of concern.

Since a solely one-way student exchange had been criticized in the past as a "brain drain" of the best Black students from their schools, a two-way transfer was proposed in 1979-80. However, there was strong sentiment within the suburbs against the idea, the fear being that it might be based on involuntary transportation of White students into the city.

The fact that the concept was tied to federal funds made for a difficult situation down the road. To briefly summarize a very complex situation, Harvey Granite, head of Urban Funded Programs for Rochester, and Norman Gross each committed the same sum of $50,000 for different purposes, apparently a lack of communication between the two offices. When the confusion became public, the resulting controversy was explosive. A compromise was ultimately reached, however, whereby 38 White children would go into the city and 35 additional Black children would go to the suburbs. Black children who had been promised space in suburban classrooms remained an unresolved issue until the state finally promised Rochester additional funds to transport the rest of the Black children to suburban schools (by now, already in session). The underlying controversy over transportation of students remains, however, and Rochester has called for a federal investigation of Gross' operation. Gross has asked for an audit of the Rochester City School District's use of the transportation funds.

The total enrollment under Project US has grown from 24 to over 100, from 1973 to 1979, but the number of receiving school districts has not increased during that period. No new districts have become part of the urban-suburban program in the past ten years. The one district that seriously considered doing so found that, in 1979, the same emotional climate existed as was evidenced in West Irondequoit in the 1960s. A second district has continued to accept 12 to 15 students per year but also has voted to stop expansion of the program at 200 students. These two districts represent setbacks to the program; and, even if additional places are found each year for those students wishing to join the program but denied acceptance due to lack of space (there were about 1000 of these in 1979), the numbers actually transported could be severely limited unless there is an increase in transportation funds.

Thus, the urban-suburban program strives to maintain its viability and to expand its effectiveness. However, supporters can take satisfaction in the fact that, despite the numbers of controversies and funding difficulties of past years, the program achieved a milestone in 1977. Students who first entered West Irondequoit's first grades full-time in 1967 were in West Irondequoit's 1977 graduating classes, the first group of minority students to have completed their elementary and secondary education under this program.

IV. DECISION-MAKING, ENTREPRENEURSHIP, AND EDUCATIONAL INNOVATION

Our decision-making model aims at analyzing what happens in innovation, who makes it happen, and how. As a model particularly geared to local public sector innovation, it is as relevant to education as to any other local public service. Thus, in the present context, the model illuminates the process of innovation in educational organizations. In this chapter, we apply our model to education by (1) discussing the nature of the school district as an educational organization; (2) discussing the nature of educational innovations; and (3) showing how organization and innovation are linked over time (stages of innovation). This linkage of organization and innovation over time is discussed with particular reference to (4) the role of the moving force in local educational innovation, the bureaucratic entrepreneur.

The Local Educational Organization

As a local service function, education is dominated by a potent public bureaucracy, namely, the school district. There are many private sector organizations that vie with the public sector educational organization, but these control only a tiny portion of the student market. Local education, for all practical intents and purposes, is run by public organizations that are coextensive with particular geographical areas, called school districts. In Syracuse and Rochester, for example, the school districts coincide with city boundaries. Two characteristics of the educational organizations that we studied are therefore discernible as significant: first, their near monopoly over control of the local educational function; and second, their size.

The implications for education of these two characteristics are important for innovation. We are talking about an organization that does not have a major competitor in its jurisdiction. Thus, if it innovates, this is not usually because of competition for the "student dollar." We are also talking about an organization that is very, very large. The budget and number of personnel in the educational organization are of a scale that dwarfs other local functions. Whatever innovations take place, therefore, must occur in and through a big bureaucracy.

Certain other innovation-relevant characteristics about the educational organization are also significant. The educational organization is highly decentralized. In addition to a central administration, there are individual schools where the core of the organization's work is performed, where the function of education is delivered to students. Yet that core is scattered in many places, as each individual school is itself an organization with a life of its own. The educational organization also features numerous semiautonomous units of decision. This semiautonomy of work units constitutes a fourth characteristic of educational organizations that is relevant to innovation. Decentralization, semiautonomy, together these suggest that innovation within small decision units of the organization may take place fairly easily (a teacher in a classroom; a principal in a school), but that large-scale innovations which cut across work units may be difficult to carry out.

A major reason for the semiautonomy of parts lies in the nature of the educational organization's work force. Its primary personnel are teachers, a highly professionalized cadre of workers. Administrators within the educational organization are often former teachers. This professional base of the work force constitutes a fifth attribute of the organization significant for innovation. Highly professionalized organizations are generally more prone to innovate than those not highly professionalized.

A sixth characteristic relevant to innovation is the educational organization's participatory character. Internally, what professionalism does not provide, teacher's unions often do; externally, there is great emphasis on client participation. The clients, at least those relevant to decision-making, are parents. Students, as clients, have little impact on decision-making. Enough parents care deeply about the performance of their schools to give education considerable attention and, in many cases, a great deal of time. They come to meetings, talk to teachers, and pressure principals. This interest is particularly keen when an educational innovation--a change in educational method--is on the horizon. Special interest clienteles such as parents of handicapped children are especially active in overseeing not only what is taught, but how it is taught and in what kind of environment. While it is professionalized, education is not as technical as many other services (e.g., health care delivery or sewage treatment). Every parent (client) has participated as a student in the educational organization. Therefore, parents feel that they know something about education, especially when it involves their son or daughter. What this means for innovation is that there are many potential and willing participants in innovation decisions.

This last point leads to a seventh characteristic of educational organizations: political accountability. To get away from politics in the partisan sense, education is organized with its own set of "governors," lay people elected to a board of education. The board is responsible for basic policies guiding the organization. The general public within a school district can participate on macroquestions such as who should be on the board, and it may vote on overall budgets, thus affecting policy through these means. Yet there is an additional dimension of accountability between the board of education and the regular governing structure of a city or county. In big-money decisions such as the bonding vote on the Syracuse Campus Plan, mayors and city councils are anything but rubber stamps for the educational organization. The autonomy of the educational organization is considerable, relative to other local public organizations, but it is not complete in any sense. Consequently, the politics of educational innovation, at least potentially, can reach beyond the organization and its clients to the larger community and its representatives and can be affected thereby.

An eighth characteristic is that of intergovernmental dependency. Education has critical vertical linkages along functional lines to federal and state government. These federal and state divisions of the educational organization are very real actors in local decision-making processes. The fact that they are indirect actors, asserting their authority through regulation and funding, makes them no less significant. In our present work in Syracuse and Rochester, the intergovernmental dimension can be seen in virtually every case. It is doubtful, in fact, that the more expensive innovations could have gotten off the ground without federal and/or state assistance, or federal and state stimulation via regulation.

Finally, there is a ninth characteristic of the educational organization important for innovation: the annual start of each school term provides a measure of momentum, a "natural" deadline for decision-making and a continual sense of renewal with each entering group of students. Other urban functions do not have this inherent deadline-forcing characteristic; and, for innovation as with other types of decisions, anything that works against bureaucratic inertia can be either a plus or a minus. It can force innovation through before opposition has a chance to defeat it, or it can kill an innovation because of too little time to procure funds, rally support, make necessary plans, etc. In any case, the inherent deadline of the school term can be a significant factor in innovative decision making within educational organizations.

These nine characteristics of the public education endeavor reveal a highly fragmented educational organization, one that appropriately has been termed "loosely-coupled."[33] They are characteristics that can help or hinder innovation depending upon the nature of the innovation selected and the way that the innovation process is managed. What is the nature of the innovation that arises within a "loosely-coupled" organization?

The Innovations

Innovations vary enormously along a number of dimensions. Among these are whether the innovation is: (1) hardware or managerial; (2) radical or incremental; (3) complex or simple; (4) expensive or cheap; (5) large or small; and (6) provides cost efficiencies and/or service efficiencies. In addition, a seventh dimension is relevant specifically to the educational function. Educational innovations differ as to whether their users are primarily educators, administrative staff, clients, or a mixture of the three.

In terms of the difficulty in accomplishing change, innovations that are perceived by potential adopting organizations as radical, complex, expensive, and large rank well ahead of those viewed as incremental, simple, cheap, and small. Innovations that have a broad constituency of users have a better chance of success than those with a very narrow set of users. Whether an innovation is hard or soft seems less important as a variable in the educational context, but the fact is that we have few hardware innovations on which to base that judgment.

In the field of education, innovations are predominantly non-hardware changes in the way that the educational organization performs its task. They are managerial innovations. Such managerial innovations can vary from a new technique in teaching introduced by one instructor to new multiorganizational arrangements sharing a particular, large-scale, very scarce resource. Yet, while education is not a hardware-intensive function, the computer is one hardware technology that has made great inroads into the educational system. Some computer innovations have those characteristics that ease acceptance: they are capable of being introduced incrementally; are relatively small, inexpensive, and simple; and have a variety of educational uses, both administrative and instructional. Others are quite the opposite. Wholly aside from what clients may think about the computers, they can be seen to have cost-efficiencies and service-efficiencies by educational personnel. In general, the computer has found the loosely coupled educational organization highly congenial, although multiple power centers can impede integrated planning.

The magnet school represents the kind of managerial innovation that has been introduced to educational organizations in recent years. Magnet schools feature novel programs and techniques, always focused around a special emphasis in one school building. They depart from the neighborhood school concept in favor of accepting students from various places and thus can be an incentive for racial integration in the process. A new school performing new tasks in new ways is not a minor matter. As an innovation, the magnet school ranks high in terms of size and cost. Magnet schools can also be highly complex innovations, depending upon the range or specialization of the programs. The more components that must be meshed to make a total system (e.g., a magnet school) work, the more complex the innovation. New kinds of schools can mean new kinds of people joining the educational staff who may not "fit" the norms of the teaching profession. Thus, complexity can enhance the radicalness of an innovation and elevate it to a higher level of controversy. Given the usual racial overtones of magnet schools, this innovation is best kept as simple as possible by the would-be educational entrepreneur. Whether magnet schools are cost-efficient, we do not know. They appear to offer service improvements, in the opinions of those who choose to attend them.

The Syracuse program for educating handicapped students is also an innovation of rather large scale. It is complex and potentially radical for a school receiving handicapped students, although whether it is radical for the school district as a whole is another matter. Judgments about the radicalness/incrementalist nature of this set of educational innovations requires understanding the subtle resiliencies of loosely-coupled educational systems. The size of the educational organization is important, as what may be a discontinuous change for one school district may be an incremental change for another. The program for educating handicapped students in a school system the size of Syracuse was somewhere between an incremental and a radical change for the district. Resiliency of the educational organization in the face of such potentially radical change is frequently aided enormously by intergovernmental interdependencies. Federal and state money assisting innovation can "mask" or "cushion" the disruptive effects of innovation. If local districts had to pay totally for innovations, many new projects would seem too big, expensive, and radical to try. The financial risk can be shared and, in some cases, virtually entirely absorbed, at least at the front end of innovation, by outside sponsors.

Certainly the educating of handicapped students in Syracuse involve this "masking effect." The school district had to comply, but it did not have to innovate. Federal/state aid made innovation-beyond-compliance possible by lessening the expense of innovation to the district. The same phenomenon repeats itself again and again in almost all of our case histories of major educational innovation. Over time, the service or cost efficiencies of an innovation can help to persuade a local district to absorb the innovation into its regular budget, but this does not usually happen at the outset. Particularly radical, large-scale, and expensive innovations may require continual support from outside.

This phenomenon was true of USITP. This was a managerial innovation that reached across districts. It was not just organizational innovation; it was interorganizational innovation. The involvement of two or more school districts in an innovation inevitably raises the level of complexity. The number of contacts are increased and the need for coordination is great. In such a program as USITP in Rochester/Monroe County, transportation over longer distances raised the cost. The receiver district in such an innovation must cope with the reality that many suburbanites leave the city to escape the Blacks that interdistrict transfer imports to the suburbs. The cost efficiency of "cultural enrichment," ostensibly the primary purpose of this innovation, is hard to calculate. Rationale can be found in morality and ideals, attributes of educational organizations of the least tangible kind. But what "cultural enrichment" is to proponents often is "forced integration through busing" to opponents.

An innovation ranking on the extreme side of virtually all characteristics associated with difficulty, USITP was bound to be controversial and strongly opposed. It has survived and even grown in student numbers, but not without problems, constant struggle, and a continual search for outside funding necessary to entice local support and, therefore, keep the innovation alive. USITP is an excellent example of how, over time, organization and innovation adapt to each other. Change occurs on both sides of the relationship, as both technical skills and political skills are brought to bear. Since this adaptation does not happen automatically, making innovation occur by employing those necessary technical and political skills becomes the task of the educational entrepreneur.

The Educational Entrepreneur

At the heart of our earlier NSF work in urban innovation was the concept of entrepreneurship in the public sector. The urban entrepreneur, like the business entrepreneur, has a product to sell. As the business entrepreneur deals in markets, so the public sector entrepreneur copes with constituencies. The business entrepreneur succeeds or fails in terms of the profit he makes. Success or failure for the public sector entrepreneur is much more difficult to gauge, but generally can be seen in whether a program he/she espouses is accepted and implemented or rejected, or whether it grows or declines. There are similarities in the abstract; but in the concrete, there are differences arising from the contrasting environments in which the two types of entrepreneurs operate. The business entrepreneur copes with a predominantly economic setting; and his strategies, tactics, victories, and defeats are largely recorded in dollars and cents. For the public entrepreneur, dollars and cents are critical, but the environment in which they are gained is a political one. This political environment may mean that a program that succeeds works itself out of a job, whereas one that fails to solve the mission for which it was created may get even more money as a result. The public sector entrepreneur thus must perpetually contend with the vagaries of political action; and the entrepreneurial activity which employs technical and political skills to directly confront such an environment is the activity of coalition-building.

Entrepreneurs and Coalition-Building

Educational entrepreneurs can be briefly defined as those actors (individuals or groups) who "spark" the innovation process, and, for the most part, those who see innovations through to implementation or incorporation. Any discussion of the activities and decision-making of educational entrepreneurs must therefore be undertaken jointly with a discussion of the coalition-building process which must take place in order for innovations to be successfully launched. The task of coalition-building, amassing support for a particular innovation, falls primarily to the entrepreneur. Only under the most unusual of circumstances can an educational entrepreneur with a "pet" innovation hope to see that innovation through to completion without performing a certain amount of this building of support coalitions for the project.

Any innovation worthy of note consumes resources, promotes change (by definition), and usually is in competition for scarce resources with other innovations or programs. It is thus unlikely that most innovations will be placidly accepted by the concerned community without considerable effort on the part of the entrepreneur to solicit support, predict where potential opposition will emerge, deflect opposition as much as possible, reassure the skeptical, and generally solidify a firm base of support for the innovation.

In discussing educational entrepreneurship, we shall therefore also analyze the methods by which the entrepreneurs in our cases went about their coalition-building activities. In an earlier report, we commented on the specific characteristics and coalition-building efforts of entrepreneurs active in the Syracuse cases that we researched during the project's first year. Here, we shall refer to conclusions drawn on the basis of those first-year cases and compare and contrast those findings with conclusions that we can now draw from the subsequent three Rochester and two Syracuse cases researched during the second year.

Who does the necessary coalition-building for innovations? Who are the entrepreneurs? What is their base of power? How do the educational entrepreneurs perform the function of matching problems with solutions (innovations)? We argued earlier that this matching function is essential in any urban innovation process. In addition, how do entrepreneurs match organization to innovation? How do they properly amass the support of appropriate sectors of a loosely coupled educational organization behind their innovations? Is the role of educational entrepreneur different from the role of entrepreneurs in other areas of urban life in terms of who fills it, what they do, and how they do it? How does our general decision-making model with its emphasis on the entrepreneurs and coalition-building hold up in the case of educational innovation?

We argue that the model holds very well. Not a single innovation studied in this project would likely have occurred without considerable effort on the part of the educational entrepreneur. Educational entrepreneurs found innovative solutions for problems, or they uncovered problems that required "their" solutions, and then channeled the innovations through the relevant decision-making stages. Such a task involves considerable skill: technical, professional, and, perhaps above all, political. Depending upon how well they match problems to solutions and organization to innovation, that decision-making process can be easy or difficult to navigate. As we have indicated, some matches of solution to problem and organization to innovation are such as to be considered radical by the educational organization asked to adopt, implement, and incorporate them. Others may be so modest as to scarcely cause a ripple. The nature of the educational organization is such that it is possible to have a large number of innovations percolating through different components of even the local educational organization at once. Indeed, perhaps no urban organization is as capable of accommodating as many different kinds of innovations as is the loosely coupled educational enterprise. Innovations may be found in a classroom, a single school, or the district as a whole.

Education is a remarkably open system for the initiation of innovation, in marked contrast, for example, to the more hierarchical urban functions of fire protection and law enforcement where topside legitimation at the initiation stage is required. Decentralized decision-making, plus the professional status of educational employees, combine to generate no shortage of ideas for new educational practices. Professionals tend to care about what they do and generally want to be considered current with the latest techniques in their field. Thus, innovation initiation can take place below the top level.

The professional ethos reaches up to the superintendent of schools and his staff. Awareness of new hardware and managerial practices is generally not a problem for the educational organization. The problem is more one of selection and implementation, for a loosely coupled organization has the advantage of having numerous centers of expertise and power-generating initiatives. Yet it also has the disadvantage of decentralized, fragmented organizations in a political environment; namely, it harbors and even nutures a superfluity of veto groups.

This study focused on innovations that made some progress. How many more are proposed only to be disposed of early? For every innovation that is adopted, there are surely many more that are not. Adoption is near the beginning of a process that is long and filled with innumerable barriers and veto groups, particularly in education. As a result, the educational entrepreneur has to be especially artful. In contrast to his counterparts in other urban functions, the educational entrepreneur, when trying to implement, does not automatically have the assistance that accrues in a functional area with strong hierarchical controls.

As we have emphasized, the educational entrepreneur's first task is to match the organizational problem with an appropriate innovative solution. The second task is to manifest this innovation: to get it adopted, implemented, and incorporated. In the process, the innovation may change: expanding, contracting, or modifying in accord with the pressures of the moment. What happens to the innovation depends not only on factors inherent in the innovation, but also upon the skills of the entrepreneur in shaping or advertising the innovation in politically attractive ways. In addition, the entrepreneur must shape the organization-centered coalition of support. Thus, both the innovation and the political coalition are dynamic. There is not one match of organization and innovation, but many matches along the way. Keeping the process moving is an enormous test of entrepreneurial skills, both technical and political.

In our original NSF project, we found that the identity of the entrepreneur could vary over time. It could be a mayor, a client, a company pressing for sales, or others--singly or in combination.

However, we found that, under most circumstances, bureaucratic entrepreneurs had the most impact on most stages of innovation. This was also true in our education cases, with one caveat. In most functions of urban government, we found bureaucratic entrepreneurs to be line-agency heads. In keeping with the loosely-coupled nature of the educational organization, bureaucratic entrepreneurs are found in many, many places, as will be seen in table which lists the entrepreneurs in the eight nonresidual cases in Syracuse and Rochester and gives their power base.

Depending upon the nature of the innovation, educational entrepreneurs appear to reside most often either at the top or at the middle levels of educational administration. Less frequently, entrepreneurs can be found at the instructional level. In the first-year Syracuse cases, we discovered that, contrary to the situation with many urban functions, entrepreneurship in education seldom emanates from the top administrative level (i.e., the superintendent of schools). We noted that the school district superintendent appears to assume the role of bureaucratic entrepreneur only when the educational innovation possesses certain characteristics. The complexity, cost, scope, and controversiality of the given educational innovation frequently determine whether the school superintendent becomes the innovation's leading proponent.

When the innovation is highly complex, when it is relatively costly, comprehensive, and likely to elicit public controversy, the superintendent of schools is more likely to become actively involved. The force of his office is important in the strategies, negotiations, and coalition-building necessary to overcome the built-in negative bias against innovations destined by their scope and complexity to compete for funds, arouse negative public sentiment, and upset the educational status quo. In our interim report, we noted that both Syracuse's Campus Plan and Rochester's Project Unique were innovations of this type; in both, the superintendent was the single, most important figure. Since then, we have found the superintendent also acting as entrepreneur in the Syracuse magnet schools case and actively supportive in the Syracuse educating handicapped children case (though not the primary entrepreneur).

Magnet schools are, in themselves, neither highly complex concepts nor highly controversial educational innovations. However, to the extent that they have been highly identified with the issues of racial integration and forced busing, there is perhaps no more complex nor controversial innovation on the education horizon. The way in which magnet schools were used in Syracuse and the purpose for which they were first established caused them to be perceived as part and parcel of that controversial and threatening issue. They were initially used as a last-ditch effort to comply with a strong integration order from the Commissioner of New York State, and the race issue involved in the magnet schools case prompted immediate strong, public sentiment. Indeed, perhaps no issue other than race

Table 9

ENTREPRENEURSHIP AND COALITION-BUILDING IN EDUCATIONAL INNOVATION IN SYRACUSE AND ROCHESTER

SYRACUSE

Innovation	Entrepreneur	Power Base
Paraprofessionals		
- Pre-adoption stage	Mario Fantini and staff	Head of Madison Area Project, a semi-autonomous unit of the Syracuse City School District
- Adoption stage and later stages	Harry S. Balmer and several members of his staff	Head of Syracuse Action for Youth (successor bureau to Madison Area Porject) and first head of the Special Programs Office, Syracuse City School District.
House Plan		
- Pre-adoption stage through early implementation stage	John Weaver Pasquale Leo	Vice principal, later principal of Roosevelt Junior High School Instructional specialist (Title I)
- Later stages	Victor Ciciarelli	Principal, Roosevelt Junior High School
Computer Technology		
- Instructional use Early years (adoption and implementation of a computer science program)	Edward Lang	Principal, Central Technical High School

Innovation	Entrepreneur	Power Base
(Computer Technology cont.) Instructional use		
Later years (adoption and implementation of a computer aided instruction program in addition to computer science)	Lawrence Page	Computer science teacher and head of the Syracuse City School District computer center for instructional services
Administrative use	No identifiable entrepreneur	
Magnet Schools		
- Pre-adoption stage through incorporation	Sidney Johnson and some of his staff	Superintendent of Syracuse City School District
- Later implementation	Harry Balmer and staff	Special Programs Office
Educating Handicapped Children		
- Pre-adoption through incorporation	Thomas Clift	Director of Education for Children with Handicapping Conditions, Syracuse City School District
- Adoption through incorporation	Sidney Johnson	Superintendent of Syracuse City School District

ROCHESTER

Innovation	Entrepreneur	Power Base
Urban-Suburban Interdistrict Transfer Program (USITP)		
- Pre-adoption stage	West Irondequoit Central School District Board of Education	West Irondequoit Central School District (active during the first volunteer transfer program which was a precursor of the USITP concept under Project Unique)
- Implementation through incorporation	Norman Gross	Administrator of USITP under Project Unique
- All stages, 1966-1970	Norman Gross	Administrator of Project Unique

promotes this kind of reaction, particularly when in reference to the desegregation of elementary and secondary schools. The urgency of Syracuse's racial imbalance problem and the utilization of magnets as a tool for redressing that racial imbalance elevated the magnet school issue to one of great scope, complexity, and public concern. Federal funding was also critical to the establishment of the first magnet, amounting to about $195,000 for the first year, and to further add to the urgency of the situation, time was of the essence. Indeed, funding for the first year was made under the U. S. Office of Education's Emergency School Aid Act; and the proposal was written, submitted, approved, and a magnet was made operable all within a three-month time span.

Superintendent Sidney Johnson played the key role as entrepreneur in this innovation. Given its scope, complexity, cost, and controversiality, he, as superintendent, is perhaps the only person who could have done so with success. The sensitivity of the race issue made a Black, creative, strong leader such as Johnson perfect for the job of matching a satisfactory solution to the problem of integrating the Syracuse city schools. Public perception of Johnson as a fair and capable public figure, by Blacks and Whites alike, was no doubt an important factor in his ultimate success as entrepreneur for magnet schools.

Also critical to Johnson's success (and apparently to the success of any entrepreneur in this type of innovation) was the fact that Johnson saw the process through from beginning to end. Our second-year cases (in particular, Johnson's experience and the experience of Thomas Clift in our handicapped case) seem to indicate that the presence of an educational entrepreneur, willing and able to follow through on an innovation, from pre-adoption to incorporation, is an important stabilizing factor which contributes significantly to the success of an innovation. The trigger for magnet schools was the state commissioner's 1976 integration order and the ensuing community reaction against any integration plan that smacked of mandatory busing. Yet the sudden, unilateral decision by Johnson to institute a magnet school was based on Johnson's and other top administrators' prior familiarity with the magnet concept, including their having once taken steps to investigate its track record. Then, as entrepreneur, Johnson being the first to be aware of magnet schools, suggested a magnet school solution for Syracuse and remained the driving and stabilizing force behind magnet schools through their incorporation.

The coalition-building task for magnet schools was a formidable one. Given the racial overtones of magnets, forming a body of support for them, deflecting public sentiment, and making them operable under severe legal and time constraints required enormous political skill. Initial response by the Danforth school community to the idea of making Danforth a magnet school was, at best, neutral; thus Johnson was faced with creating positive support from the very beginning. Laboring under the heavy time constraint, Johnson pulled together his coalition first by soliciting the cooperation of Danforth's Principal Hannah, Balmer's Special Programs Office (which drew up the plan for the Danforth magnet), and other top district administrators. Even among this "top brass", however, there was skepticism early along, but respect for Johnson as a leader acted with time to overcome the skepticism and promote consensus. Included within this early coalition were also Danforth parents, who participated in compiling the proposal for funding. An information "blitz," complete with media exposure and information hotlines, sought to draw the relevant community into the ranks of magnet supporters, and top administrators were involved even to the point of their physical presence at the opening of the school. Johnson's strategy, then, was not to actively seek a broad participation during the search for solution and adoption stages (a necessity due to time and legal pressure), but to expand that participation as much as possible during the implementation stage, all the while maintaining the presence of the initial top brass coalition. Perhaps one of the most difficult tasks of any educational entrepreneur is maintaining adequate control over any innovation while at the same time expanding participation in the innovation decision process sufficiently to coopt or deflect potential opposition. To do so requires considerable political savvy and leadership ability, both of which Johnson displayed in this case.

Given more time and the presence of Danforth as a model, the establishment of McKinley-Brighton as a magnet school was a somewhat smoother process, although coalition-building was important in that case as well. In fact, McKinley-Brighton serves as an important example of how entrepreneurship and innovation coalitions can carry over from one innovation to the next. Not only were the same top administrators involved (now with the experience of Danforth under their belts), but the federal proposal for McKinley-Brighton specifically cited Danforth's success as one of its selling points.

With more time to spare, coalition participation could also affordably be broadened at an earlier stage. A survey to determine citywide interest in a second magnet program brought in community participation as early as the search for solution stage, and the results of the survey helped to shape the program ultimately established at McKinley-Brighton. Once again top administrators also followed through with the transition to a magnet school, that transition no doubt considerably smoothed by earlier coalition-building involving McKinley-Brighton parents and the Special Programs staff in the drawing up of the magnet program.

The Syracuse magnet schools case, as well as other of our second-year cases, underlines the importance of not only a strong and capable entrepreneur, but also an entrepreneur with the skills and will to engage in the necessary political negotiations which are part of pulling together and maintaining a stable, orderly innovation coalition. Education professionals, as we have noted, are often perceived as somewhat apolitical. Yet our cases reveal that this sort of political know-how is vitally important to successfullly instituting certain educational innovations, particularly those which threaten to drain scarce resources and which bode of substantial system change.

In the educating handicapped children case, entrepreneurship was not primarily located in the office of the superintendent. However, again Superintendent Johnson played the role of entrepreneur during several stages leading to adoption and incorporation of Syracuse's programs for the handicapped. There is little question that the original impetus for taking the school district beyond mere compliance with federal and state mandates came from Thomas Clift, director of Education for Children with Handicapping Conditions. Yet without the vital and active support of Superintendent Johnson, from adoption through incorporation, it is doubtful that these programs would have been incorporated so smoothly. The extent to which district programs for handicapped children constituted innovation "beyond the mandate" was not so broad, complex, costly, or controversial as to require entrepreneurship at the top agency level; thus Clift, as a lower-level administrator, could lead the way in instituting those programs, given his superior negotiating and coalition-building talents. Yet Johnson, as a consistent, active supporter of the programs, put the force of his office behind Clift and helped to make the acceptance of the programs within the district swift, smooth, and virtually non-conflictual. In the one instance in which there was public dissent (the McCarthy school issue), Johnson's influence was critical.

The conclusion of our interim report is thus confirmed by our second-year of research: given broad, complex, controversial, costly educational innovations,

> . . . it is unlikely that anyone other than the superintendent of schools could credibly have attempted to push for the innovation. The nature of the innovations required the ultimate in professional and technical talents, as well as political skill and clout. The superintendents were the right people for the role of entrepreneur.

This finding is firmly supported by the Syracuse magnet school case and is consistent with the secondary supportive role played by the superintendent in educating handicapped children in Syracuse.

More often, however, entrepreneurship does not come from the superintendent's office. Of the eight non-residual cases we considered in this project, we isolated fifteen individuals or groups who, at one time or another, could be termed "entrepreneurs." Yet of those fifteen, only in the two cases cited above was the superintendent in the forefront of innovation advocacy, acting as entrepreneur. The remainder of the entrepreneurs represented some lower level of administration within the educational structure, although we repeat the contention of our interim report that no generalization can be made as to precisely where that lower-level entrepreneurship will emerge.

In our interim report, we noted that one type of bureaucratic entrepreneur seemed to be a constant in Syracuse educational innovations. This was the Division of Planning and Evaluation, or Special Programs

Office. We found that this particular staff organization in the central administration:

> has developed into the organizational memory and nerve center for innovation in the district over the course of the past decade. Special Programs was involved in each of our cases, acting variously as a broker, provider of resources and technical assistance, and even as a prime entrepreneur. About half of the 80 persons in the group have worked continuously together over the past decade; and it is clear that their combined grantsmanship, bureaucratic, and political skills have become finely honed. Their intergovernmental contacts have also cemented strongly.
>
> The Special Programs Office can be characterized as a lasting alliance within the school district, yet it is a coalition with a changing membership. Instructional specialists and certain administrators are often detailed from their regular duties to spend a semester a year in the Special Programs Office in order to work on a proposal or conduct an evaluation. Thus, the tentacles of the office reach into many schools and programs within the district. It could be said that the office serves as a lynch-pin for change between the loosely coupled structures of the district. In short, this office has become a vital resource for educational innovation.

Once again, with our second-year cases, we found entrepreneurial activity within this office. Harry Balmer and his staff were strong advocates and supporters for the first Syracuse magnet school. Although Superintendent Johnson and his staff were entrepreneurs at all stages of that innovation, Balmer and the Special Programs Office took over some of that responsibility by designing the plan for Danforth and by preparing the proposal for its federal funding. (In fact, Balmer and staff had been very much aware of interest-centered programs such as magnet schools for years, but could never seem to sell the idea of magnets to the board of education. Through a report which he authored, Balmer is on record as having recommended establishing magnet schools long before the decision to do so in June 1977.) Balmer's staff also conducted the survey to gauge citywide interest in a second magnet and eventually wrote the proposal for the McKinley-Brighton magnet; together with other top administrators, Balmer helped to guide the transformation of McKinley-Brighton to a magnet school as well.

Special Programs was involved in magnet schools for many of the same reasons they were integral to the paraprofessionals innovation in Syracuse, studied during our first year of research. First, it had jurisdiction over such projects, since both innovations were funded almost entirely with outside funds (paraprofessionals with federal and state funds and magnet schools with federal funds) and since Special Programs was responsible for procuring such funds. In addition, its autonomy within the district put it in a good position to evaluate and control any federally-funded program. Finally, the "ideology" of the Special Programs Office was consistent with both the paraprofessional and magnet school concepts. Balmer had had an early interest in magnet schools and was thus a logical person to lead in their establishment, just as compensatory education had been a long-time concern of his office, making it a logical overseer of the paraprofessionals project.

The Special Programs Office has become a bureaucratic entrepreneur itself and an ally of other bureaucratic entrepreneurs. It may be more accurate to refer to it as an intergovernmental entrepreneur. As external mandates, from federal and state levels, and external funding have become increasingly important in the life of the school district, so this staff organization in the Syracuse central administration has come to play a key role in many innovation processes. Its profile is low (no doubt a sensible bureaucratic strategy for a staff organization), but there is little question that it has come to be considered useful by many of the centers of power in the Syracuse City School District.

There are still other sources from which educational entrepreneurs can arise, however. In our first-year cases we discovered that when there is a "host building" for an innovation, entrepreneurship can occur at an even lower administrative level, with the principal or vice-principal of the host building assuming the role of entrepreneur. This occurred in the Syracuse House Plan case. To expand that concept a bit, we can see that a "host district" can play the same role. In the Rochester Urban-Suburban Interdistrict Transfer Program, entrepreneurial activity during the pre-adoption stage (which, as the idea stage, is critical) can be discovered in the West Irondequoit Board of Education. Due to the special characteristics of its members, the West Irondequoit Board of Education played a unique and interesting role in the early evolution of USITP. Representing a suburban district which was, "for the most part homogenous, stable, relatively affluent, and White," the board of West Irondequoit decided to institute a voluntary interdistrict transfer program with the Rochester school district, whose Black population had increased 650 percent from 1950 to 1970. It is particularly interesting that, although a 1963 directive from the New York State Commissioner of Education sent some city school districts scurrying to find ways to achieve racial balance, West Irondequoit was one of those districts with very little problem in that regard. Nevertheless, the social concerns and moral convictions of the largely professional, well-educated affluent, and liberal members of the board prompted them to suggest the interdistrict transfer plan with Rochester city schools. This initial offer on the part of the board eventually developed, through a series of steps, into a precursor of USITP. Thus, this "host district" played the role of entrepreneur in the early, pre-adoption stage by initiating the Rochester-Irondequoit exchange program and by working to solidify a coalition of teachers and community leaders behind the project. The board later met with a variety of community groups in an attempt to broaden support, disseminate accurate information, and answer the opposition. However, actual adoption decisions of the Board of

Education of West Irondequoit were secret, a fact which later proved troublesome for the implementation of the program. The board stood firm in its decision, however, in spite of vehement opposition which eventually took political, legal, and financial forms.

West Irondequoit's role as entrepreneur ended, however, with the pre-adoption stage, for all of this activity occurred prior to the time the innovation under study, USITP, was adopted. Rather, it was primarily due to the entrepreneurial efforts of Norman Gross, as administrator of the urban-suburban transfer program of Project Unique, that the West Irondequoit innovation was expanded. Initially, he did this by including West Irondequoit and two other suburban schools in a grand plan to reduce racial imbalance and improve urban education. From that point on Gross was the undisputed entrepreneur, using his firm commitment to the project to organize student support groups, obtain new funding when old sources dried up, and answer opposition.

Thus it appears that entrepreneurial activity can occur at top agency levels (under certain specific conditions), at middle-level administrative locations (individuals or formalized offices such as the Special Programs Office), or at lower levels, such as the principal of a host building or the board of education of a host district. Entrepreneurship can also shift from level to level during the course of an innovation. Innovations are not always discrete events, and in fact the process of innovation can often best be described as an "ever-widening circle" of innovative activity. The stages of decision-making may reflect the incremental and zig-zag nature of the development of an innovation, so that it is not unusual to find a problem-awareness-innovation-new problem-awareness-innovation adjustment process. As the innovation progresses, each step of the innovation gives rise to a new perceived need, which can then give rise to a new innovative solution or to an adjustment in the original innovation. Entrepreneurship can also fluctuate according to this pattern; or, as is the case with a particular entrepreneur we studied, Norman Gross, the entrepreneur may not only sustain these fluctuations, but may cause them to occur and persist as entrepreneur through a series of innovation changes. Perhaps this ever-widening circle of activity and the zig-zag pattern of innovation is more likely to occur in a function such as education, with its decentralized, loosely-coupled character. When innovation occurs within such an organization, the innovation must be bandied back and forth to gain acceptance among the various power centers.

The educational entrepreneur must be capable of coping with this zig-zag pattern, especially when attempting to expand an innovative concept. One entrepreneur we examined, Norman Gross, was particularly astute in this regard. Two additional Rochester innovations--The Metropolitan World of Inquiry School (MWOIS) and the Urban-Suburban Center for Innovation in Education (USCIE)--were offshoots of USITP; Norman Gross played the entrepreneurial role for these innovations as well. In fact, one may view the general concept of quality integrated education as a pet innovation of Gross' which he sought to implement in several different ways and to transplant in several different locations. Gross suggested the idea for MWOIS, formulated plans for the school, and secured tentative approval from Webster Central School District administrators to rent a building should funds become available. After some conflict over the administrative and funding specifics of the program, Gross (now entrepreneur for several distinct educational innovations) also proved himself able to make difficult choices. Because of limited funds, Gross eventually had to choose between maintaining the Metropolitan World of Inquiry School and continuing long-term transportation of minority students to suburban districts. His decision to limit MWOIS enrollment was but a step toward phasing out the school the following year. The fact that Gross was able to continue his concept of quality integrated education in other ways no doubt eventually lessened the difficulty of abandoning this particular innovation.

Gross also approached Virgilio, principal of the Campus School, and SUNY Brockport administrators with the idea of aligning their school with his USITP program; and, when the Campus School was ordered closed by state univerisity trustees, he offered funding to keep the school alive. This adjustment or modification of his innovation was possible because Gross strongly promoted the adoption of certain features of the World of Inquiry model into the Campus School. Internal conflict over the identification of the school with USITP was eventually resolved with, once again, financial considerations the determining factor. Without USITP identification and the funds that would result from such association, the school would die. At this point, the school became known as USCIE. However, Gross' entrepreneurial abilities continued to prevail as he subsequently used USCIE as a means of persuading Brockport Central School District to also join USITP. Once again, Gross' commitment to the concept of quality integrated education as an educational innovation enabled him to employ an incremental strategy to eventually expand USITP further. Thus, the pervasiveness of Gross' entrepreneurship in the Rochester area is obvious. From his initial base, he has gravitated to a point where he spends all of his time running various innovative programs, each concerned with essentially one innovative concept. Gross is an excellent example of how entrepreneurship and coalition-building ability can carry over from one innovation to another.

In the handicapped education case, we find yet another example of educational entrepreneurship at lower administrative levels in the person of Thomas Clift, director of Education for Children with Handicapping Conditions of the Syracuse City School District. There are basically four unmandated programs for educating handicapped children in Syracuse which can be considered innovations. That is, there were four important innovative ways in which Syracuse' efforts to deal with handicapped education in a more appropriate way went beyond the requirements of federal and state law. In each of these programs, Clift was the foremost innovator, coalition-builder, trouble-shooter, and implementor.

The programs that went beyond the mandate included a summer program for adolescents with learning disabilities; a special program to integrate autistic children and children without handicaps ("mainstreaming"); special classes for the developmentally delayed; and a heavy emphasis on, and support for, the Special Olympics. Clift, by virtue of his office, had responsibility for planning, administering, staffing, and directing the process of district adaptation to the federal and state mandates, and developing programs which went beyond the mandates. His special talents as an educational entrepreneur were exhibited by his foresight in consulting the most important service and constituent groups in the area of handicapped education. As the case study makes clear, Clift did this in such an outstanding spirit of openness and fairness (as perceived by those concerned) that the bulk of potential opposition was deflected, and a general spirit of cooperativeness existed between concerned parties on the one hand, and Clift and Johnson on the other. Three major factors can be cited as responsible for the smooth success of these series of educational innovations: the mandated nature of the changes, the availability of outside funding, and Clift's strong leadership and open decision-making style. Of these, however, Clift's personal characteristics can be noted as perhaps the most important. Sometimes successful entrepreneurship means simply getting the right person for the job.

Our earlier cases found entrepreneurship existing at still another level, that of the instructor. In the Syracuse computer case, a computer teacher eventually took over the role of entrepreneur for innovative instructional use of the computer. In our interim report we argued that the nature of that particular innovation explained this instructional-level entrepreneurship. That is, since the innovation involved expanded usage of an educational device which was a pre-existing department specialization, it only made sense that an individual equipped with that specialized knowledge and experience--i.e. a computer science teacher--should become the major promoter of the innovation. Our second-year cases do not include such an innovation, and we found no entrepreneurship existing at the instructional level among those cases.

Conclusions: The Educational Entrepreneur and Coalition-Building

Our second-year cases add to our overall knowledge of educational entrepreneurship and the coalition-building that it demands. We have in Rochester's Gross almost a classic example of the individual entrepreneur, an individual who lives with, expands, modifies, and even partially abandons an innovation over a number of years. He is the public sector equivalent of what in industry is often called a product champion. We also have some glimmerings of an institutional variety of bureaucratic entrepreneur: a small staff organization within the school district whose role has expanded with the growth of federal and state influence on local innovation processes. One type of entrepreneur is dynamic and charismatic--the individual who makes things happen. The other is grey and institutional, hardly noticeable except in retrospect, when it becomes clear that it has mattered quite a bit to the success of the innovation. One concentrates on a key innovation or set of related innovations. The other plays a role vis-à-vis innovation in general. Thus, while it can be said that educational entrepreneurs can exist anywhere within the educational organization, it may be possible to classify entrepreneurs into these two basic types. Both are obviously important to the innovative process.

A further means of classifying entrepreneurs is by the administrative level at which they exist, which frequently corresponds to the nature of the innovation with which they are associated. Large, complex, controversial, costly innovations seem to require the political clout and authority of the superintendent's office, and even innovations of lesser scale can benefit enormously from that input. Smaller, more incremental innovations generally can be adequately handled by administrative officials at middle and lower levels. In fact, it may be argued that officials at this level are more likely to possess the necessary time and the unidirectional focus required to see incremental innovations through a series of setbacks, modifications, and expansions. It is entirely possible that the multiple, onerous duties of the superintendent's office render the superintendent better suited for large-scale innovation advocacy, where initial stages of the decision process move very quickly. A superintendent must deal with the biggest issue on the educational horizon at any particular moment; the remainder of his time must be distributed among numerous other concerns. Thus someone like Johnson was able to give his all to the magnet school program for a short, intense time period because it was "the" issue in education during that period. On the other hand, lesser officials such as Gross or Clift may be better able to pursue their pet project innovations from beginning to end, no matter how long it takes to achieve implementation or incorporation, and no matter how many setbacks or modifications are necessary.

Much of what was said about educational entrepreneurship in our interim report is confirmed by our second year of research. Educational entrepreneurship probably does not differ much from Syracuse to Rochester. Rather, variation in the locus of educational entrepreneurship and in the style of and success of coalition-building probably depends more on the following than on city-to-city variation:

1. the nature of the innovation--its scope, complexity, cost, and controversiality;
2. the personal characteristics of the individual or group that assumes the role of entrepreneur;
3. the availability of outside funding for the innovation
4. the breadth of participation allowed in the decision-making process regarding innovation

We have discussed in some depth the first two points in our foregoing analysis of entrepreneurship and coalition-building in general. The last two points will be elaborated upon as we outline how entrepreneurs build and maintain innovation coalitions through the stages of our decision-making model. In doing so, we shall give attention to the uniqueness of the educational organization as a vehicle for innovation--both innovation "from below" and "mandated innovation," or "innovation from above."

The Stages of Innovation

Awareness

Entrepreneurs are generally aware of both problems and innovative solutions. Sometimes they literally sit on innovations for years, awaiting the opportunity to introduce them. So it was with the Syracuse magnet school concept, in which both the district superintendent and the Special Programs Office were fully aware that magnet schools were being tried as integration mechanisms around the country. Key leaders of the Board of Education of West Irondequoit were similarly aware that they had practically no Blacks in their suburban classrooms and that the solution to this problem required bringing Blacks in. No one had to tell Clift that the Syracuse school district was not doing all it could for handicapped children. And certainly Gross was aware that if the World of Inquiry School worked in the city, it could provide the model for a sister institution in the county. Entrepreneurs are the organizational actors who are first to spot performance gaps and to seek solutions; they are the last people to be satisfied with the *status quo*. Whatever other motivations they may have--and bureaucratic entrepreneurs no doubt want what other bureaucratic leaders want in the way of perquisites and rewards--they reach just a little beyond their brethren. Sometimes they make dreadful mistakes. Although our cases, by selection, do not reveal such clear-cut errors, some innovations can no doubt prove to be white elephants. Hence risk and potential embarassment are entailed in the entrepreneurial endeavor. We have been told that our concept of bureaucratic entrepreneur is a contradiction on its face. Bureaucrats do not take risks; therefore they cannot be entrepreneurs. Our answer to this is that a few do, and these relative few give movement to the functions within which they are situated--movement for better or worse.

Trigger

Sometimes the mere existence of an innovation can be the trigger for innovative activity. The innovation exists; therefore there is a pull to use it. At other times innovation does not occur unless there is a full-fledged demonstration of its workability--a "snowball" effect which occurs when one successful model of an innovation begets another. As noted earlier, innovation is frequently not a discrete process. That is, one form of innovation can breed a new problem, which then requires a new innovative solution, and so forth. In those cases, there is not just one trigger, but a series of mini-triggers which highlight the problem in need of an innovative solution.

In our original NSF project, and in several of the eight non-residual cases researched here, we found that federal and state action--particularly regulatory action--was what prompted the local entrepreneur to begin to build a support coalition for his innovation. Whether it was the state ordering desegregation, or federal and state laws mandating new programs for the handicapped, such actions churned the local waters, and entrepreneurs were provided with a catalyst for making their first move. We can term innovations which are triggered by some form of federal or state mandate or regulation "innovations from above" or "mandated innovations." Thus, in Syracuse, both the magnet schools case and the educating handicapped children case are examples of innovations from above. Although our eight non-residual cases provide a somewhat limited data base from which to judge, it appears that innovations from above have certain characteristics in common, as distinguished from innovations from below. When the catalyst for innovation is a federal or state regulation, certain questions usually debated within the normal innovation decision process become moot issues. That is, the question of whether or not to innovate is already decided by the mandate for change. A legal mandate has been given, and change of some kind must occur in order for the district to comply with the mandate. The question of ends is decided before innovation actually begins. Depending upon the nature of the mandate, even certain questions of means may also be prescribed. The legal mandate which led to the establishment of magnet schools simply specified ends--a desegregated public school system. The decision process for magnet schools thus revolved around how that end was to be achieved. The mandate for handicapped education, on the other hand, was considerably more specific. Not only were the ends specified--more appropriate handicapped education with greater procedural safeguards--but certain means were outlined as well. Thus the decision process for this innovation concerned not only what means to employ for mere compliance, but what, if any, means were used to go beyond compliance.

Even though innovations from above have this concern for ends over means, however, this does not mean that the innovation decision will be either more or less controversial, participatory, or easily implemented. Even though the question was essentially one of means, the process leading to magnet schools was difficult, controversial, and highly participatory. The handicapped education decision, however, was quite the opposite: relatively easy, smoothly implemented, and with a limited amount of participation from the wider community.

Given increasing imposition of state and federal regulations on the activities of school districts, it would no doubt be worthwhile to employ a wide data base in order to research the differences in the innovation process between innovation decisions concerned with ends (innovations from below) and those concerned with means (innovations from above).

Search for Solution

The entrepreneur can search for solutions by enlisting to the maximum outsiders, particularly clients. This was Clift's strategy in our case on educating the handicapped. An alternate route is for entrepreneurs to know the solution they wish to impose, and then to plan for its introduction. In that instance, the search process is carefully controlled, and participation is constrained. This was the route the West Irondequoit Board of Education took in employing its interdistrict transfer program. In the Syracuse magnet school case, the search was necessarily limited by the deadline-forcing fact that the school term was approaching and the entrepreneur, the superintendent in this instance had to do something with Danforth School right away. With more time there might have been a more participatory search (although one might claim that community opposition to Danforth's closing constituted client participation in the search for a solution to racial imbalance. That opposition, in effect, made the decision that closure was not the appropriate solution and another would have to be found.) A more participatory search process was seen in the introduction of the second magnet school to Syracuse. In Rochester, Gross's entrepreneurial style was clearly not that of a searcher, but rather that of a strategic planner. No doubt he ruffled feathers as a consequence; but he also revealed a flexibility that may represent a kind of search in means if not in ends.

In terms of our decision-making model, most actual coalition-building begins with a push from the educational entrepreneur at or near the search stage. In fact, whether the entrepreneur is committed to coalition-building at that early stage often helps to determine the degree of success in later implementing and incorporating the innovation. In the magnet schools case, the search process was a *fait accompli* before Johnson even began concerted, broad coalition-building to rally support for the concept. As a result, it might be argued that the relevant community was taken off guard, which may have caused suspicion about the first magnet school. In the handicapped education case, the search for a means of achieving compliance with federal and state mandates was quite participatory, within the limits of the concerned community. Clift began his coalition-building at the outset of the search process, and in fact several of the solutions which ultimately emerged from the search process originated with lay "experts," those normally outside the decision process at this stage, but deliberately brought in by Clift.

In some instances coalition-building at the search stage can thus help to reduce the intensity of potential opposition by coopting it and making it part of the decision process. However, there are risks involved. Conflict within the coalition is also possible, as the search for solution can uncover several possible innovative alternatives, each with its own set of proponents.

An inherent potential for conflict within the search coalition exists between professionals in the educational community and clients (parents and students) who are vitally interested in the outcome of the search. In the handicapped education case, professionals and clients were able to work closely together during the search because there existed a consensus among participants over ends, and even over the appropriate means to achieve those ends. The consensus over means evolved in great part due to the perceptions of both professionals and clients that their input into top decision-making levels was seriously considered and valued. Thus an inclusive search process worked to stabilize later stages of the innovation process. The consensus over means was established "from above," by federal and state law mandating appropriate education for handicapped children.

In both the Syracuse magnet schools case and in USITP there was initial skepticism from education professionals as to the workability or wisdom of the innovation. In the magnet case the skepticism arose from two men destined to become the principals of the first two magnet schools. It is likely that Johnson, as entrepreneur, drew upon the prestige of his office to persuade these two key individuals and thus to prevent their potential opposition, at least where the first magnet was concerned. Perhaps due to the extreme time constraints, he also kept the search process limited in participation by non-professionals, or clients. With more leisure time for participation and debate, with more time in which to tolerate and answer opposition, and with the example of the first magnet, Johnson could afford to allow expanded participation during the search stage for the second magnet school. In the first magnet case, worries over cohesion on the issue between professionals and clients had to wait for more pressing problems such as time and funding.

In education, time can play a key role in curtailing the scope of the search coalition. In educational innovations outside funds and externally-imposed mandates can be critical factors which create tight time limits on decision makers. When either external directives or the need to procure outside funding places the burden of a tight deadline on the entrepreneur, the decision must sometimes be made to restrict participation, at least until a solution can be decided upon, in order not to further jeopardize the future of the innovation. Quite simply, mandates and funding problems can render debate and open participation in the search stage unaffordable. It may not seem wise to include clients in the what questions, or even in the how questions, given deadline pressures and top-level consensus on how to proceed. After these immediate problems are solved, however, clients may be included in the more specific how questions such as the location of a new magnet, the details of a transfer program, etc. These issues can then affordably be negotiated between professionals and clients. At that point clients may even limit decision-makers in their efforts to implement innovations. In MWOIS, for example, a citizens' committee of West Irondequoit was able to veto the professionals' choice for principal of the Metropolitan World of Inquiry School.

In USITP, participation was managed (deliberately perhaps) at the ICE stage by the West Irondequoit Board of Education. Gradually, the board did expand participation as the public-at-large was informed of the results of the search process. A further attempt to manage participation, even past the search stage, occurred when the board refused opponents' request for a referendum on the early ICE issue (the forerunner of USITP).

A large number of participants during the search stage can thus mean a greater chance of opposition and a slower search process, resulting in costly time delays. Our cases seem to suggest that the more radical the innovation is perceived to be, the more those in charge prefer to restrict participation at least for a time to education professionals and elected board members. Perhaps this is one of the most difficult tasks an educational entrepreneur faces when attempting to build an innovation coalition at any stage: to find a way to provide sufficient participation while also providing the necessary leadership to restrict participation when necessary.

In general, when compared to other urban sectors, educational innovations are quite participatory, even from the search stage on. However participation can be deliberately postponed, even past the search stage, when increased participation threatens the viability of the innovation itself.

Adoption

In adoption, the entrepreneur's match of organizational problem with innovative solution must be legitimized by the affirmation of those who have control over scarce resources. Who are the adopters within the educational organization? Since we were interested in innovations of a scope requiring district decisions, our adopters are those who allocate resources on behalf of the district; namely, the board of education and the superintendent. Occasionally the entrepreneur and the adopters are one, as in the Syracuse magnet school case and in USITP's forerunner, ICE. In such circumstances, where roles are combined, adoption is obviously eased. However, there is also no question as to who is responsible and accountable. In the West Irondequoit ICE program, this meant that the opposition began trying to vote the adopter/entrepreneurs out of office. Eventually they had some success, but by this time the mantle of entrepreneurship had been delegated, as ICE developed into USITP, and the innovation process had moved well into the implementation stage.

Intergovernmental financial resources are frequently vital to the adoption of educational innovations, and one of the prime attributes of a successful entrepreneur is the ability to procure outside money. Thus federal and state decision-makers, particularly those concerned with funding educational innovations, can also be part of the innovation coalition, particularly at the adoption stage. Since whether outside funding can be obtained may determine whether an innovation is implemented, or even adopted, innovation efforts may cease rather abruptly if funding does not appear to be forthcoming. This was the case with both the Metropolitan World of Inquiry School and magnet schools in Syracuse. Educational entrepreneurs seem to prefer to look "upward" to state or federal sources for funds rather than to the locality. Indeed, outside funding is often an important selling point to the locality where the innovation is concerned.

In our previous research we noted that innovation coalitions consist most often of adopters, implementers, clients, and suppliers. Where educational innovations are concerned, the most significant alliances appear to be between professionals and clients, with federal and state mandates and funding aiding cooperation and cohesion within the coalition. There were no cases in our second year in which politicians loomed large, so that our cases are, for the most part, studies in interorganizational relationships. It may be that education, as a field, possesses a certain kind of autonomy in selecting its innovations (due to the acknowledged professional status of educators). This autonomy seems to prevail provided there are adequate funds to support the innovation. The fund-raising strategy, perhaps more than any other single factor, has helped to build coalitions for adoption of educational innovations.

Our original model tried to operationalize the adoption decision. As long as the decision was to acquire something new using local funds, this was sensible enough. But in a function such as education, where federal and state money is so pervasive, it is difficult to distinguish an adoption where there is serious local commitment from one where there is local commitment as long as there are outside dollars to serve as a means of support. Entrepreneurs will do their best to get the necessary local commitment from the legitimate authorities essential to adoption, for if they are smart, they know that federal and state resources are unpredictable and fleeting. Therefore, entrepreneurs must get as much local commitment as possible. They can use opportunities for outside funding to attract local interest and get the innovation underway. However, they know commitment at the local level must go beyond the adopters. Memberships on boards of education change, and superintendents are replaced. The adoption decision is but one milestone in the process of innovation. Implementation is the next step, and it is in implementation, more than in adoption, that a lasting commitment must be built.

Implementation

In the implementation stage, bureaucratic entrepreneurs are thus converted, by virtue of legitimator's policies, into established administrative programs. Often the entrepreneur changes, with someone slightly lower in the hierarchy taking over. Thus, in the Syracuse magnet case, the principal of the magnet school became the implementing entrepreneur, in combination with the Special Programs Office, which had as its task the acquisition of federal money to make innovation happen.

The implementing entrepreneur, whoever that is, is as much a coalition-builder as is the entrepreneur at the adoption stage. However, whereas adoption in education tends to feature agreement on the part of legitimators and outside fund-providers, implementing entrepreneurs must look more to the local clientele. If the implementing entrepreneur can build enough grass roots support, changes in personnel will not matter so much to the long-term security of the innovation.

Thus, in implementation, the process of matching innovation to setting occurs. Sometimes threatening features of an innovation are modified to keep or attract support. Sometimes variations are added in order to expand a program. Clift, in building support for educating handicapped students, added a number of items at the behest of this program's local constituency.

Implementation can be a matter of degree. That is, the definition of successful implementation for any innovation can vary or modify as time passes. We noted earlier that a prime characteristic of educational entrepreneurs is their level of commitment to the educational philosophy underlying their innovations. Entrepreneurs often work diligently using every available resource to preserve the integrity of that philosophy, if not of a specific innovation. Gross, for example, tried to keep his dream alive by promoting the Campus School and adapting its goals to those of the earlier Rochester World of Inquiry School.

Our cases also reveal at least one attempt to expand an initial innovation beyond its intended focus, and to employ the implementation coalition to do so. The implementation coalition used to effect the initial Syracuse magnet school was extended to establish a second magnet. Implementation coalitions, in adapting to the inevitable or to new opportunities, can thus move innovations in the direction of expansion (Syracuse magnets), which is a demonstration effect; revival (Rochester's Campus School); or even contraction (the eventual demise of the Metropolitan World of Inquiry School).

A key variable in these shifts is the behavior of outside funding during implementation. Ideally the process of implementation is one in which local support gradually supplants the need for outside funds. But in some innovations, this is not the case. What sustained some of Gross's USITP innovations was not only his ability to widen local support, but also his ability to attract alternative outside funding when one source was closed off.

A great deal of "reinvention" can take place during implementation in order to keep a viable support coalition (horizontal and vertical) together. The implementing entrepreneur can never really rest while financial support is uncertain.

Incorporation

A key variable in incorporation is sustained financial support from funds that are for operational rather than experimental or demonstration projects. Such funds may continue to come from outside; however, they are in a category of support that has priority among funders and a base of support in the local clientele is so clear and dependent that terminating the effort is viewed as too politically costly to be worth the battle. The key to incorporation is establishing a lasting alliance around the innovation. This is the configuration the entrepreneur must seek to build if the innovation is to last.

It is often difficult to determine when incorporation has occurred and when it is still pending. Magnet schools as innovative programs are, for the most part, well incorporated into the Syracuse City School District's educational format. It is highly likely that the programs for the handicapped will continue to be an institutionalized part of the system for some time to come. The intent of their establishment was to upgrade handicapped education. This need will persist, no doubt, and Syracuse's programs for the handicapped do not compete substantially with other parts of the district's educational curriculum for funds. Since magnet schools were founded primarily to ease a racial imbalance problem, and since it is conceivable that racial imbalance will cease to become the pressing concern that it once was, it is possible that magnets could eventually be phased out. Given the persistent funding problems of USITP, it is difficult to argue that these innovations are fully incorporated (and, of course, MWOIS is no more). To return again to our comparison of innovations which are mandated from above versus those which emerge from below, it is perhaps not mere coincidence that of our second-year cases, the two mandated innovations appear much closer to incorporation than the two innovations from below. The force of legal state and federal mandates may give innovations which result from such mandates a stamp of legitimacy, even though these innovations are only one possible solution to responding to the mandate. Outside funding also appears to flow more easily for innovations which purport to solve the problem of federal or state regulation compliance, and this no doubt contributes to their incorporation.

Conclusions: The Decision-Making Model

In the last section of this chapter, we have discussed the relevance of our decision-making process model to educational innovation. In particular we have analyzed how our concepts of bureaucratic entrepreneur and coalition-building apply to the cases of educational innovation we have studied in Syracuse and Rochester. Our model links organization and innovation through the mechanism of the bureaucratic entrepreneur. Obviously that model must be adapted to the peculiar circumstances of the educational organization, including its professional orientation and its loosely coupled structure. Such a structure, together with the highly professionalized personnel force, provides innumerable opportunities for new innovative ideas to surface and be considered at many levels of the organization. It also provides ample occasion for veto groups to erect barriers. The real problem is to match organization and need, a job which falls to the educational entrepreneur. Entrepreneurs must adapt the innovation to what the organization can absorb, what its clients can use, and, more and more, what federal and state governments will sponsor. And they must do this not once, but many times over the sequence of stages leading to ultimate incorporation. Our model illuminates what happens and who makes it happen. It is a dynamic model, and a dynamic model is what is required for a subject such as educational innovation.

At any stage of decision-making, the educational entrepreneur must repeatedly decide how much to encourage or limit participation within the innovation coalition. Because the local educational organization is politically accountable, the entrepreneur must keep the innovation coalition sufficiently broad at any stage to coopt potential fatal opposition. Yet participation has its risks. The entrepreneur must also limit participation sufficiently to take quick, decisive action when funding and school term deadlines demand such action, and when professional consensus renders it possible

For the innovating educational organization, progression from one stage of decision-making to the next is frequently dependent on whether funding is available. Especially where costly innovations are concerned, whether the innovation ever gets past the awareness and trigger stages can depend upon whether outside funding is in the offing. Once adoption takes place, implementation can be thwarted, or, at the very least, modifications may have to be made in order for necessary funding to be procured. And, as we noted earlier, the very definition of incorporation encompasses the notion of either consistent outside funding or of a switch from a dependency on outside funding to primarily local responsibility for funding the innovation.

It is useful at this point to consider the next steps in the development of our model as it relates to educational innovation. As we have noted throughout, our focus has been on local decision-making processes within the function of education. Yet time and again we discovered that local decision-makers were responding to or using federal and state administrators to achieve purposes of mutual interest to both. Education was once among the more local of local services, but that time has long past. Federal and state influences are pervasive at various stages of the innovation cycle.

At the same time, we found--at the local level--that some of the most difficult and intrinsically important innovations were those that cut across districts. USITP was one of the more controversial of our innovations, and Norman Gross was certainly among the more interesting educational entrepreneurs.

Without question, the frontier in organizational research and innovation lies along interorganizational lines, both vertical and horizontal. This is the dimension of intergovernmental relations, with intergovernmental interpreted as meaning federal, state, and local relations as well as relations among school districts. Not only does this interorganizational thrust seem propelled by the logic of research; but also there are public policy imperatives that seem to call for such research. With federal and state governments mandating change and/or attempting to sponsor change in the local school district, there seems to be a requirement for higher governments to know more about the processes they unleash by their policies. Under what conditions, in particular, does a local school district go beyond compliance to a federal or state order and innovate on its own?

At the same time, we are entering a period--perhaps extending until the end of the century--of scarcity. Cutback management is in vogue, and local schools will not be spared. If the great controversies surrounding education in the 1960s and 1970s were largely social, those in the 1980s and 1990s may well be economic. The student market is shrinking, and everywhere there is the cry for productivity in public services, education not excepted. The present study included interdistrict designs to achieve goals. Another study might inquire as to whether interdistrict arrangements for economic goals might be established, goals in making maximum use of scarce resources for maximum pay-off in terms of quality education. What are the incentives for such interdistrict arrangements? Future research might be directed in such a way as to find out. The next step, in short, is toward interorganizational research and educational innovation.

V. RESIDUAL EFFECTS OF INNOVATION: LONG-TERM CAPACITY FOR INNOVATION IN SYRACUSE AND ROCHESTER

Rationale

In our proposal to apply our decision-making process model to educational organizations in Syracuse and Rochester, we extended our conceptual model to include what we labeled "residual effects" of innovations. This effort was an extension of our earlier work on urban technological innovation for the National Science Foundation. After reviewing the literature on innovation in organizations and our case studies, we observed that most research is "project oriented." In other words, most researchers focused on a particular innovative project: how it was started, designed, adopted, implemented, and routinized in a relatively limited period of time. Rarely did these researchers study the long-term consequences of the innovation and/or the degree to which successful or unsuccessful attempts to innovate affect the organization's capacity to innovate. Thus, we proposed to test a methodological approach in studying the residual effects of two, major, large-scale innovations: Project Unique in Rochester and the Campus Plan in Syracuse.

We hypothesized that the innovation process in public organizations does not cease with the incorporation or routinization of a specific innovation. Organizations and their members are permanently affected by attempts to innovate, successfully or not. For example, the Syracuse City School District sustained a failure to innovate with the defeat of the Campus Plan proposal. Former Syracuse Superintendent Barry and a number of school district administrators informed us that they realized mistakes had been made in the innovation process and that they would do things differently if given another opportunity. Their experience with attempting to move the Campus Plan to adoption left some residual effects deeply impressed on the school district staff. Examining these effects, we believed, would add a significant dimension to our knowledge of the capacity of public organizations to innovate. Up to this point, we had envisioned this capacity only in terms of the resources and strategies utilized by bureaucratic entrepreneurs in assembling a coalition. We were unable to explore residuals because we lacked a longitudinal perspective of the innovation process. Thus, we proposed to remedy this knowledge gap by reexamining Project Unique in Rochester and the Campus Plan in Syracuse to determine what residual effects of these innovations remain in the two districts in the 1970s.

We do not claim that the notion of residuals is a new social science construct. It is related to the notions of organizational feedback, spillover effects, and indirect consequences. We are extending the construct of residual effects to the process of innovation in educational organizations. It adds complexity to our model. Our results from field work both in Syracuse and in Rochester indicate that examining residual effects over a ten-to-fifteen-year period adds greater realism and depth to our decision-making model. This approach places innovation efforts in a much broader context of educational policy-making.

In our proposal to NIE, we made no claim to be able to trace every consequence, every direct and indirect effect of all decisions relating to Project Unique. The purpose of this research effort and the limited resources of the grant constrained us to select and examine a mere sample of possible residual effects. However, even this modest effort has produced very interesting and extremely useful results.

We had hypothesized also that examining residual effects would not only provide us with a greater understanding of an organization's capacity to innovate, but would also provide us with a more complete picture of the impact of large-scale innovations over time. Our view of the status and actual contributions of the Campus Plan and Project Unique have changed as a result of the work for NIE.

Revaluation of the Campus Plan and Project Unique

In our earlier work for the National Science Foundation, we had characterized the Campus Plan as an "aborted innovation" in Syracuse. We documented its birth in 1966 and its demise in 1970. After years of planning and hundreds of thousands of federal Title III dollars spent to design and market numerous innovative concepts, the failure to implement the Campus Plan was a source of frustration to administrative staff members, the superintendent, and federal officials of the U. S. Office of Education (USOE).

On the other hand, our study of Project Unique in Rochester indicated that we had a success story. We characterized Project Unique as a successful innovation from start to finish. We examined the design, adoption, implementation, and routinization stages of Project Unique. Both for practitioners and for academic scholars, there was much to be learned here about the process and impact of large-scale innovations.

Viewing the Campus Plan and Project Unique as "innovative projects" in and of themselves, our initial characterizations were essentially correct. However, reexamining each over a longer period of time, we have revaluated our positions. The Campus Plan may have died at the adoption stage, but its residual effects have had a profound influence on the Syracuse City School District. The Project Unique experience in Rochester was indeed a successful innovation, but its residual effects have been mixed in relation to their long-term impact on the Rochester City School District. The apparent failure of the Campus Plan may have had greater long-term benefits for Syracuse than the apparent success of Project Unique for Rochester.

Background for the Campus Plan and Project Unique

The Campus Plan and Project Unique were designed to address similar problems. The Campus Plan focused on three broad goals:

(a) to stimulate racial integration;
(b) to improve instruction on the elementary level; and
(c) to solve the problem of deteriorating plants.

Similarly, Project Unique was designed to accomplish the following goals:

(a) to help reduce de facto segregation in city schools;
(b) to help eliminate racial isolation in suburban schools; and
(c) to improve urban education in a declining city.

The Campus Plan and Project Unique were considered to be key components in long-term plans by both city school district superintendents to reduce racial imbalance in their respective schools. The planning process was triggered by several important events. The first was a "Special Message to Chief School Administrators and Presidents of Boards of Education" on June 14, 1963, issued by New York State Commissioner of Education Dr. James E. Allen, Jr. The second event was a series of racial disturbances in major cities in summer 1964. The third event was the passage of the Elementary and Secondary Education Act of 1965 which provided special funds under Title III for innovative educational programs. The fourth event, perhaps the most important, was the interaction of key actors to brainstorm and elicit ideas for joint decision-making and collective problem-solving. Ad hoc coalitions of interested citizens, businessmen, educators, administrative staff members, the superintendents of both districts, and local, state, and federal officials were formed to plan and move the innovations through the complex and torturous decision-making process.

In their original form, both the Campus Plan and Project Unique were very similar. Each had an instructional or programmatic aspect and a capital construction aspect. A crucial distinction between the two projects, however, was the grand strategy used by the educational entrepreneurs in each district.

In Syracuse, Superintendent Franklin Barry placed the emphasis on the capital construction aspect due, in part, to the deteriorating facilities in the district. Following the Campus Plan, the city would be divided into four quadrants with an educational park at the core of each quadrant. In each park would be up to eight, 540-pupil schools. The construction of all four campuses was planned to occur over a twenty-year period, and existing schools would be phased out in order of obsolescence. Great emphasis in the design stage was placed on the physical facilities and organization of the educational parks (or campuses as they were also called). Less emphasis was placed on the curriculum changes that would focus on individualized instruction. One of the most innovative features in the plans for implementing the individualized approach was a computer system "capable of storing, processing, and retrieving large volumes of information as an integral part of the daily instructional process."[34]

In 1968, estimates of the cost of the first of four proposed campuses were $20 million. Adopting the Campus Plan would have committed all concerned to major educational expenditures and a new delivery system for elementary educational services in the city. The new facilities would have provided racial balance, the relocation of all elementary pupils to four sites, and the abandonment of the neighborhood schools. Because of the scope and cost of the plan, it had to be approved by the Syracuse Board of Education, the Syracuse Common Council (for bonding), and the City Board of Estimate. Thus, the successful adoption of the innovation required support from many individuals beyond the coalition formed by the educational bureaucracy.

In Rochester, Superintendent Herman Goldberg focused the attention of the coalition members on the programmatic aspects of Project Unique rather than on the capital facilities aspect. He believed that, by implementing first the integrated educational package, he could later win support for new facilities incorporating these new programs. Only on a few occasions and in a few paragraphs, did Goldberg present his vision for the construction of new facilities. This vision included a large complex of educational and administrative facilities plus a central communications system, all housed on one tract in the central city. It would include an 800-pupil, permanent World of Inquiry School, a Resource Demonstration Center, a telecommunications studio, and the central administrative offices of the Rochester Board of Education. While this ambitious new complex of facilities was to be an integral part of the long-term plan for Rochester, most of the attention of the proponents of Project Unique was focused on the programmatic components Of Project Unique's $4.5 million funds received through Title III over a three-year period (1967-1970), only about $90,000 specifically went to capital improvement of an old school building.

In summary, both Project Unique and the Campus Plan had programmatic and capital construction aspects. In Rochester, the focus was placed on the programmatic components to move the innovation through the various stages of adoption and implementation. This strategy was successful. In Syracuse, the focus was placed on the capital construction aspect to move the innovation through the decision-making process. This strategy resulted in failure at the early adoption stage. Only a careful examination of residual effects tells us the complete story of the Campus Plan.

Types of Residual Effects

We have defined residual effects as intended and/or unintended consequences of an innovation that are traceable, or at least fairly traceable, to a specific innovation. In our proposal and throughout our field work, we had no illusions about the difficulty of defining and operationalizing this construct of "residual effects." Causal connections between events are often blurred by the occurrence of other activities. Causal relationships, in general, are very difficult to verify in social science research, especially in studying real-world decision-making processes. Our results, thus, are reported as tentative generalizations.

In applying our model to the cases, we have identified three types of residual effects.

Type I: Those effects directly traceable to a particular innovation.

Type II: Those effects originating in earlier innovations that are enhanced or extended by a later specific innovation. Here, there is a "piggyback" effect. If the effect were traceable to a second and third innovation, we would designate it as II (3)

Type III: Those effects that are mixed. They are the result of many innovative attempts and policy decisions. They can only be fairly traced to any one innovation.

These various types of residual effects can be of three categories.

I. Structural (tangible)

   A. Organizational artifacts - changes documented in

      (1) Standard Operating Procedures (SOPs)
      (2) Codifications
      (3) Contractual agreements
      (4) Reorganization plans
      (5) Personnel position classifications
      (6) Incentive systems

   B. New or modified work roles

   C. New membership in the organization

   D. Resource allocation - budget modifications

   E. Cooperative agreements

   F. Mechanisms of coordination

II. Perceptual (intangible) - changes in

   A. Status

   B. Professional values

   C. Attitudes

   D. Informal relationships

III. Instructional

The evidence of residuals from the Campus Plan has been examined by Marguerite Beardsley in her case study, "The Campus Plan in Syracuse: 1966-78." Officials of the Syracuse City School District enthusiastically endorsed this approach. They discussed the construct of residual effects with the SRC research team on several occasions. They readily understood our focus and provided many concrete examples of innovations in the district that were adopted and implemented after the Campus Plan proposal had been abandoned. On table 10, we have summarized the residual effects of the purported "failure" of the Campus Plan and their

Table 10

CAMPUS PLAN INNOVATIONS IN USE
SYRACUSE CITY SCHOOL DISTRICT ELEMENTARY SCHOOLS

SCHOOLS	TOPICS								
	Individualized Instruction	Computerized Instruction	Dial-Access Information	Multi Approaches to Reading	Interest-Centered Programs	Open School Concept	Team Teaching/ Planning	Media Centers	Community Participation
Bellevue	X			Distar		X			
Danforth					Magnet		Teaching		
Delaware	X			X				X	
Elmwood	X								
Franklin	X				X				
Frazer	X			X					
Hughes	X			X			Both		
Huntington									
Hyde							Both		X
King				SRA			Teaching		
Lemoyne									
McKinley-Brighton		X			Magnet		Planning		
Meachem	X			X	X		X	X	X
Porter									
Roberts	X			X	X	Some Grades	X	X	X
Salina									
Seymour	X						Planning		
Smith, Edward	X			X			Both		
Smith, H. W.	X	X		X	X		X	X	X
Van Duyn									
Webster	X			X	X				X
Weeks	X					X	X	X	X

distribution by school. On tables 11 and 12, we have placed these and other residuals in the context of the typology suggested above.

Information on the residual effects of Project Unique is summarized here from the case study, "Residual Effects of Project Unique in Rochester, New York, 1970-79" prepared by Patrick J. Hennigan. Table 13 orders the effects based on the same typology above.

Major Residual Effects in Syracuse

One of the most significant residual effects identified in Syracuse is the Special Programs unit. Organized as a loose coalition during the design stage of the Campus Plan, a new organizational unit has emerged over the past decade. The Special Programs unit has greatly enhanced the district's capacity to innovate. It represents a body of in-house technical expertise. It is also an important component of the district's organizational memory.

In her case study, Beardsley describes the structure and evolution of this office. Special Programs consists of about eighty staff members whose activities are conducted in a separate building apart from the administrative offices of the district. This group monitors programs, writes proposals to secure federal and state funds, conducts assessments and evaluations, and participates in planning for the district. In addition, the unit coordinates audio-visual equipment and use, provides a resource center for teachers, and administers special programs such as the Indian Education Center, Pre-Kindergarten Program, and English as a Second Language Program.

The emergence of the Special Programs unit appears to be due to several factors. First, as budgets contract, administrative positions are eliminated. Some personnel must shift to "soft" government project funds. As outside funding is obtained, positions are retained or added. A second factor is the strong support of the superintendent. A third factor is the gradual growth in confidence and ability among the staff of the Special Programs unit. A very important residual effect of the Campus Plan experience is the development of in-house or in-district technical expertise.

In the early and mid-1960s, the district relied very heavily on the use of outside educational consultants. Today, the use of consultants has decreased dramatically. Many of the current staff members were involved in designing the Campus Plan proposals and in submitting them for funding. These processes greatly enhanced their skills. The ad hoc coalition of general education people has, in effect, become a lasting alliance of technical experts. About one half of the unit's staff have been working together for ten years. Several of the key staff members played active roles in the Campus Plan. They know about the process of moving innovations from design to adoption. This contributes significantly to the district's current capacity to innovate.

Table 11

RESIDUAL EFFECTS OF THE CAMPUS PLAN BY TYPE OF RESIDUAL

Type of Residual	Effects
Type I: directly traceable to the Campus Plan	Individualized instruction; Multi-approaches to reading.
Type II: "piggy-back" effect of the Campus Plan	Special Programs Office (formerly Office of Research).
Type III: fairly traceable to the Campus Plan; mixed effects	Computerized instruction; Open School concept; Team teaching; Media Centers; Interest-centered programs

Table 12

CLASSIFICATION OF THE CAMPUS PLAN RESIDUAL EFFECTS BY TYPE OF INDICATOR

INDICATOR	TOPICS														
	Individualized Instruction	Computerized Instruction	Multiple Approaches to Reading	Interest Center	Team Teaching	Team Planning	Open School	Media Center	Instructional Specialists	Community Participation	Quadrant Plan	Long-Range Facilities Planning Committee	Inservice Education	Integration Efforts, Racial Balance	Technical Expertise (In-House)
I. STRUCTURAL	(Report Card)														
Standard Operating Procedures	X				X	X	X								
Codifications															
Contracts		X													
Reorganization Plans				X			X	X			X				
Personnel Classifications									X						
Incentives															
Changes in Roles									X	X		X			X
Changes in Organizational Membership										X		X			X
Changes in Resource Allocation														X	
Cooperative Agreements															
II. INTANGIBLE															
Changes in Status										X		X			
Changes in Professional Values					X	X			X	X					
III. INSTRUCTIONAL	X	X	X	X	X	X	X	X	X				X		

Table 13

CLASSIFICATION OF THE RESIDUAL EFFECTS OF PROJECT UNIQUE BY TYPE OF INDICATOR

Indicator	Integrated Classroom Instruction (WOIS)	Sibley's	Interest Centers (WOIS)	Computers	Teaching Practices (WOIS)	Magnet-type School	Use of Paraprofessionals	New Bargaining Unit: Paraprofessionals	Job Description: "Educ. Associates"	Urban-Suburban Transfer	Project Unique, Inc.	Capacity to Raise Funds	Metropolitan WOIS	Community Participation
Structural (Tangible)														
SOP					X	X	X	X		X	X			
Codes											X			
Contracts										X	X			
Reorganization Plans	X		X		X	X				X			X	
Personnel					X		X	X	X		X			
Incentives														
Roles		X			X		X	X	X		X			X
Organization Membership		X					X		X					X
Resource Allocation	X		X		X	X	X		X	X	X	X	X	
Cooperative Agreements	X									X	X		X	
Mechanisms of Coordination	X	X				X				X				
Perceptual (Intangible)														
Status							X		X	X				X
Values	X						X		X	X				
Instructional	X			X		X	X							

The Special Programs unit also serves as a mechanism or vehicle for lateral or upward mobility for teachers and administrators within the district. For example, in our case, "The House Plan in the Syracuse City School District: Managerial Innovation in a Single School," by Thomas Dorsey, we learned how an organizational and managerial innovation was designed and introduced by a group of school teachers and administrators in one junior high school in 1967-68. One of the key actors later shifted from the junior high school to the centralized Special Programs staff. Thus, he brought his expertise on the house plan and on the process of innovating to his new unit.

Our findings in Syracuse indicate that advocates of the Campus Plan took advantage of new opportunities to implement campus plan innovations for years after the termination of the official Campus Plan effort. In general, Beardsley found that those innovations requiring little or no changes in existing facilities and within existing organizational structures were more widely implemented by the district. Also, those innovations requiring no capital investment were more frequently used. Available funding through Title I facilitated the adoption of more innovations in Title I schools than in non-Title I schools.

In addition to the Special Programs unit, important residual effects that we have identified and examined include the following items:

(a) individualized instruction;
(b) computerized instruction;
(c) team teaching and planning;
(d) use of instructional specialists;
(e) inservice education;
(f) use of a quadrant-plan approach in the district integration planning effort;
(g) multiapproaches to reading;
(h) interest-centered programs;
(i) media centers; and
(j) parent and community participation.

Of the residual effects examined, the open school concept has been rarely implemented. Dial-access information, described in the Campus Plan study as important to the success of individually prescribed instruction, has not been adopted by the district. All of these effects are described in greater detail in the case study by Beardsley contained in the volume of cases accompanying this report.

Major Residual Effects in Rochester

In Rochester, we faced a situation far different from our experience in Syracuse. Here, we were examining the residual effects of a very successful set of innovations contained in Project Unique, rather than an innovation terminated before adoption, as in Syracuse. In our research, we were able to identify and examine many important residual effects of Project Unique. More detail on each residual effect is contained in the case study in the second volume of this report.

The most important residual effects of Project Unique are Project US, the World of Inquiry School (WOIS), and Project Unique, Incorporated (PUI), (see figure 1). Of these three items, the first two were two components of the original nine components of Project Unique from 1967 to 1970. The third is a legal body: a new, nonprofit, educational organizational structure established to continue the work of the original Project Unique. The various other types of residuals are arrayed in table 14.

Project Unique consisted of nine innovative programs centrally administered by a special, semi-autonomous unit called the Center for Cooperative Action in Urban Education. Following the Chronology of Events, 1963-1979 (see table 15), a Title III (ESEA) planning grant in 1965 helped to launch the formal planning for Project Unique. A coalition of Rochester administrative staff, teachers, university representatives, and business leaders formed the core of a group of actors determined to design innovative programs and move them to adoption. After adoption by the Rochester Board of Education, Project Unique received federal Title III (ESEA) funds to implement its components for three years: 1967-1970.

For the three-year trial implementation, Project Unique received about $4.5 million in Title III funds. Of the twelve original components in the first proposal submitted by the school district to the U. S. Office of Education in 1967, nine were approved and funded for the three-year period. In addition to the administrative unit (the Center for Cooperative Action in Urban Education), two of the major components included the World of Inquiry School and the Urban-Suburban Interdistrict Transfer Program. Other program components included the Urban Education Major Program, the Community Resources Workshop, the Teacher Program, RISE (the Right of an Individual to Secure an Education), SPAN (School Parent Adviser to the Neighborhood), the Teacher Internship Program, the Community Resources Council, and Sibley's Satellite School.

After 1970, when Title III funding for Project Unique ended, essentially only two of the original nine components continued to function intact: the World of Inquiry School and the Urban-Suburban Interdistrict Transfer Program. The following programs either were terminated or merged with other programs:

(1) RISE - Designed to respond to the needs of individuals in public schools and community agencies to improve their job status with additional academic training.

(2) Urban Education Major - Provided opportunities for special graduate training oriented toward urban schools. After 1970, it was transferred to local college programs.

Figure 1

MAJOR RESIDUAL EFFECTS OF PROJECT UNIQUE

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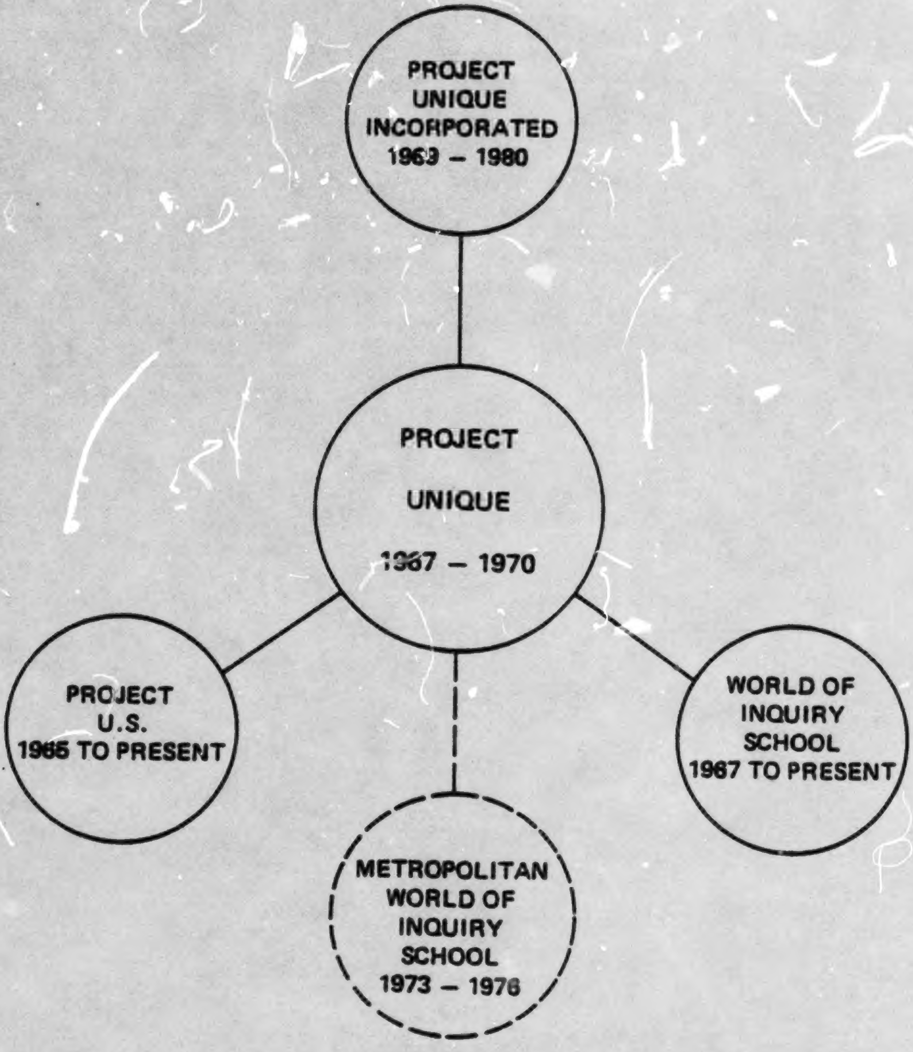

PROJECT UNIQUE INCORPORATED 1969 – 1980
PROJECT UNIQUE 1967 – 1970
PROJECT U.S. 1965 TO PRESENT
WORLD OF INQUIRY SCHOOL 1967 TO PRESENT
METROPOLITAN WORLD OF INQUIRY SCHOOL 1973 – 1976

Table 14

RESIDUAL EFFECTS OF PROJECT UNIQUE BY TYPE OF RESIDUAL

Type of Residual	Effects
Type I: directly traceable to Project Unique	Project Unique, Incorporated; World of Inquiry School - magnet-type school - family groups and interest centers - open classroom; Fund-raising experience with private sector.
Type II: "piggy-back" effect with Project Unique	Urban-Suburban Interdistrict Transfer Plan: Project US; Paraprofessional training programs; Community participation (business, parents, groups); Metropolitan World of Inquiry School.
Type III: fairly traceable to Project Unique; mixed effects	"Educational Associates" credential for paraprofessionals; New bargaining unit for paraprofessionals; Magnet-school concept.

Table 15

CHRONOLOGY OF EVENTS

1963-1979

PROJECT UNIQUE
TIME FRAME

DATE	EVENT
1963	Herman Goldberg named superintendent of Rochester city schools. New York State Commissioner of Education, Dr. James B. Allen, Jr., requests statement on racial imbalance in Rochester city schools by September 1.
1964	Summer: civil disturbances in central city Rochester. Fall: initial planning meetings between school superintendent, state officials, and faculty of University of Rochester to develop a cooperative project on urban education.
1965	Urban-Suburban Transfer Program established between West Irondequoit and Rochester city schools. January: first public announcement of the plan for the Center for Cooperative Action in Urban Education (CCAUE) and a World of Work demonstration school. November: Rochester Board of Education approves proposal for Title III planning grant.
1966	Summer: Community Resources Workshop held--basis for CCAUE. Dr. Elliot Shapiro appointed to direct the planning team. USOE approves Title III planning grant.
1967	January 15: submission to USOE of first proposal for Project Unique. May: USOE approves proposal; William C. Young appointed direct of Project Unique.
1968	USOE approval of second-year funding for Project Unique
1969	USOE approves third-year funding for Project Unique. September: Project Unique receives provisional charter from New York Board of Regents as a nonprofit corporation. Tamblyn and Brown complete feasibility study on fund raising.
1970	Rockefeller Foundation grant to the World of Inquiry School for $120,000 to be matched by local funds for 1970-72. William C. Young resigns. Raymond S. Iman appointed director of Project Unique.

1971	Dr. Herman Goldberg resigns as superintendent of schools; Dr. John Franco is appointed superintendent of schools. Dr. Harvey Granite is appointed director of Project Unique.
1972	National Science Foundation awards three-year grant.
1973	Project Unique, Inc., granted absolute charter by New York State Board of Regents (see appendix A for charter draft). Emergency School Assistance Act grant received. Metropolitan World of Inquiry School opens.
1974	World of Inquiry School institutionalized within Rochester City School District budget. Mrs. Eleanor Peck is appointed Project assistant.
1975	Project Unique, Inc., begins support for Artists-in-Residence (see appendix B for summary of activities, 1975-78).
1976-1977	Metropolitan World of Inquiry School closes. Many proposals prepared but not funded, with Project Unique, Inc., as sponsor.
1978	"Call to Action" memo from Dr. Harvey Granite to the Board of Trustees of Project Unique, Inc. Revitalization process begun to reformulate goals and objectives of Project Unique.
1979	Project Unique, Inc., opens separate office. Mrs. Diane Kehoe Burns is appointed associate director. New proposals are developed to reactivate Project Unique.

(3) Community Teacher - Based on the notion of a classroom in the home and focused on the need for early childhood education. After 1970, it became part of the Community Education Center, supported by state funds.

(4) SPAN - Focused on the connection between the home and school, with paraprofessionals serving as trouble-shooters and ombudsmen. It also merged with the growing paraprofessional movement in Rochester.

(5) Sibley's Satellite School - Provided a highly visible setting in a downtown department store for customers and other visitors to see integrated education "in action." It was terminated with the end of Title III funding.

(6) Teacher Internship - Designed to prepare interns to be effective classroom teachers for inner-city schools. Interns were new student teachers as well as experienced elementary teachers who desired retraining. This program was also terminated after 1970.

The major components, the World of Inquiry School and the Urban-Suburban Interdistrict Transfer Program, were analyzed in greater detail to determine their current status and various residual effects.

The World of Inquiry School was an early magnet-type school, drawing children on a voluntary basis from the inner city, outer city, and suburban districts. In the early 1970s, it was characterized as one of three "alternative" schools, an optional setting for students. One major residual effect was that WOIS set the tone for integrated educational efforts later funded by the Emergency School Aid Act and for recent planning efforts to expand the magnet-school concept. The experiences of administering WOIS were shared with other district administrators through community planning panels and work groups.

The following residual effects of WOIS were identified and examined:

(1) use of computers;
(2) continued use of family groups and interest centers;
(3) magnet-school approach;
(4) IPI Systems approach;
(5) transfer of WOIS model;
(6) joint parent-staff reporting process;
(7) teaching practices:
    (a) fluid class groupings;
    (b) team teaching;
    (c) open classroom environment;
    (d) parents as helpers;
    (e) reporting system to parents; and

(8) overall attitudinal changes about the role of WOIS.

The second residual effect studied was the growth in the role of paraprofessionals. The paraprofessional movement in Rochester which

CITY SCHOOL DISTRICT - ROCHESTER, NEW YORK

ORGANIZATION CHART

The Rochester City School District is organized with the Instruction of its children and youth as the center of its activities.

Administration and Financial support assure the effective and efficient implementation of Instructional programs.

Under the leadership of the Superintendent of Schools, three divisions coordinate the numerous facets of the Rochester City School District with Instruction being supported by Administration and Business Affairs. Such an organization facilitates the implementation of the District's goals and objectives as developed by staff and community and adopted by the Board of Education.

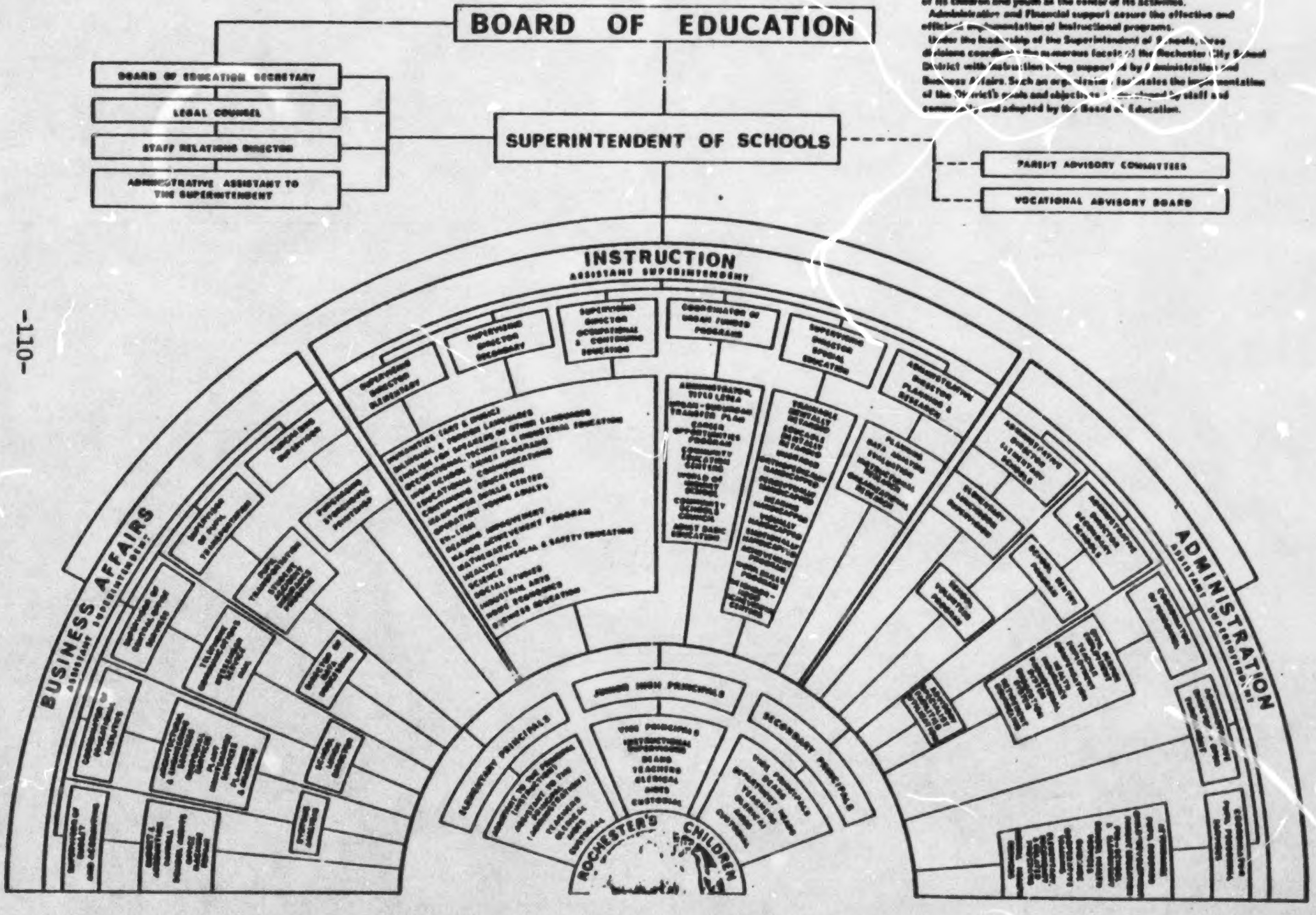

BOARD OF EDUCATION
BOARD OF EDUCATION SECRETARY
LEGAL COUNSEL
STAFF RELATIONS DIRECTOR
ADMINISTRATIVE ASSISTANT TO THE SUPERINTENDENT
SUPERINTENDENT OF SCHOOLS
PARENT ADVISORY COMMITTEES
VOCATIONAL ADVISORY BOARD
INSTRUCTION
ASSISTANT SUPERINTENDENT
SUPERVISING DIRECTOR ELEMENTARY
SUPERVISING DIRECTOR SECONDARY
SUPERVISING DIRECTOR OCCUPATIONAL & CONTINUING EDUCATION
COORDINATOR OF URBAN FUNDED PROGRAMS
SUPERVISING DIRECTOR SPECIAL EDUCATION
ADMINISTRATIVE DIRECTOR PLANNING & RESEARCH
BILINGUAL & FOREIGN LANGUAGES
ENGLISH FOR SPEAKERS OF OTHER LANGUAGES
OCCUPATIONAL, TECHNICAL & INDUSTRIAL EDUCATION
COMMUNICATIONS
SKILLS CENTER
YOUNG ADULTS
READING ACHIEVEMENT PROGRAM
MATHEMATICS
HEALTH, PHYSICAL & SAFETY EDUCATION
SCIENCE
SOCIAL STUDIES
INDUSTRIAL ARTS
HOME ECONOMICS
BUSINESS EDUCATION
URBAN - SUBURBAN TRANSFER PLAN
CAREER OPPORTUNITIES PROGRAM
COMMUNITY EDUCATION CENTERS
ADULT BASIC EDUCATION
TRAINABLE MENTALLY RETARDED
EDUCABLE MENTALLY RETARDED
PLANNING
DATA ANALYSIS
EVALUATION
BUSINESS AFFAIRS
ASSISTANT SUPERINTENDENT
ADMINISTRATION
ASSISTANT SUPERINTENDENT
JUNIOR HIGH PRINCIPALS
ELEMENTARY PRINCIPALS
SECONDARY PRINCIPALS
VICE PRINCIPALS
DEANS
TEACHERS
CLERICAL
AIDES
CUSTODIAL
ROCHESTER'S CHILDREN

Figure 2

began in 1965 received a firm boost from Project Unique during the period from 1967 to 1970. Here, we would classify this as a type II residual effect. Project Unique was used to expand the role of paraprofessionals.

Year	Source of Support
1965-66	Title I, ESEA, "New Careers"
1967-70	Project Unique - Title II, ESEA RISE component SPAN component, absorbed people from RISE and New Careers Community Teacher Program Operation Home Base Teacher Intern Program
1975-76	Peak years: 300-400 paraprofessionals in instructional units, plus 200+ in service roles
1979-80	About 200 in instructional units

A separate union bargaining unit was established for paraprofessional staff members: the Teacher's Aide Associates of Rochester (TAAR), as part of the Rochester Teachers Association.

In discussing residual effects of Project Unique, the chief administrator for paraprofessional programs cited the patterns and levels of training and the utilization of community people as role-model educators. She considers these to be two important residual effects. Structural residuals include the following items:

(1) a new bargaining unit;
(2) new job descriptions for "Educational Associates" developed by staff and approved by civil service; and
(3) a new training program: five years, leading to elementary teacher certification.

Project Unique was also a vehicle for enhancing the Urban-Suburban Interdistrict Transfer Program. This is also a type II residual. Comparing pupil enrollment and funding figures before, during, and after Project Unique indicates that participation in Project Unique greatly enlarged the program. Enrollment increased from 24 students in 1965-66 to 618 in 1970-71.

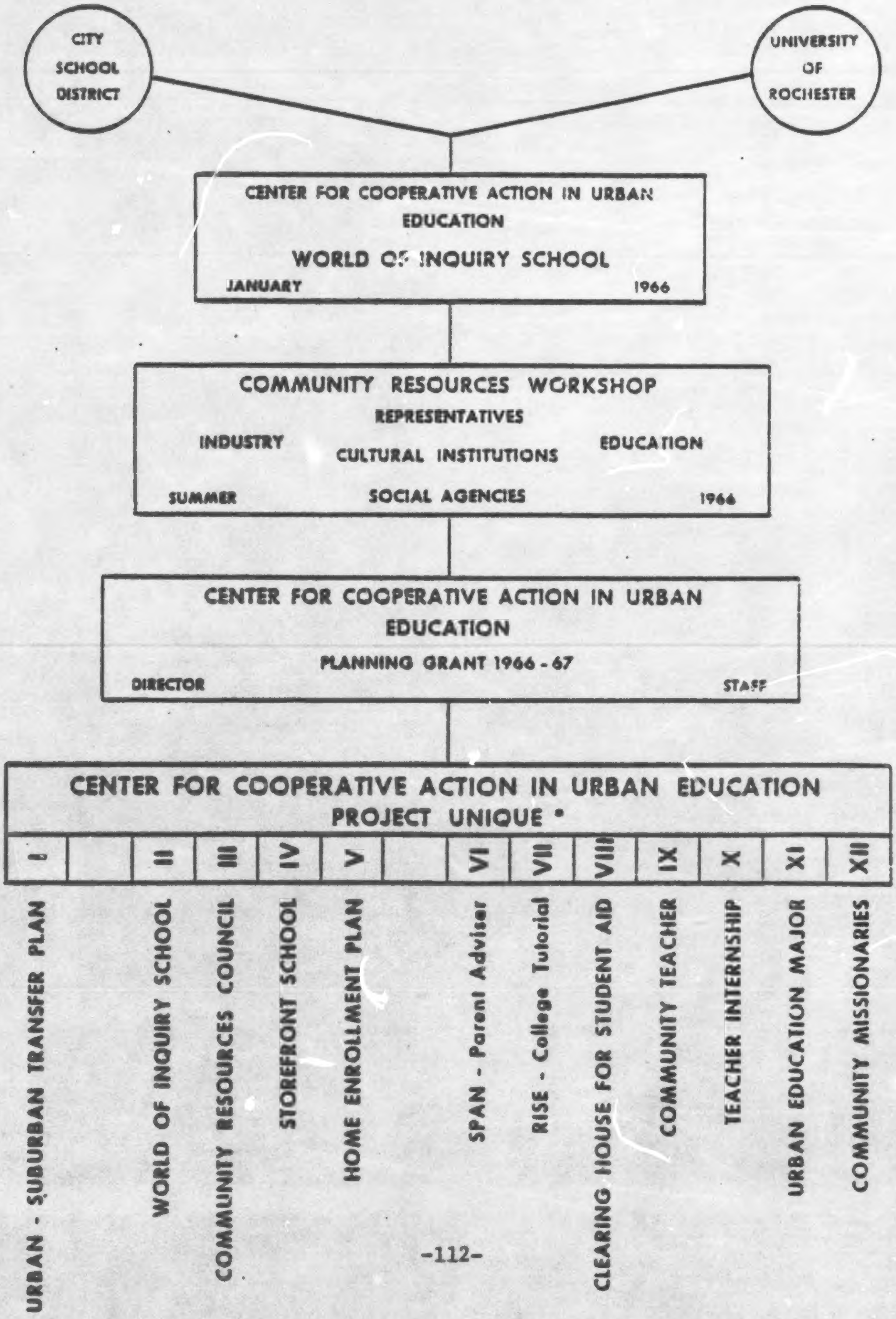
One of the most interesting residual effects of the whole Project Unique enterprise is the nonprofit educational corporation called Project Unique, Incorporated (PUI). Provisionally chartered by the New York State Board of Regents in 1969, PUI was granted an absolute charter three years later.

The purposes for which the corporation was formed were:

(1) to continue the aims and goals of Project Unique as contained in the various program components, specifically

Figure 3

*United Now for Innovation in Quality Urban - suburban Education



CITY SCHOOL DISTRICT
UNIVERSITY OF ROCHESTER
CENTER FOR COOPERATIVE ACTION IN URBAN EDUCATION
WORLD OF INQUIRY SCHOOL
JANUARY
1966
COMMUNITY RESOURCES WORKSHOP
REPRESENTATIVES
INDUSTRY
CULTURAL INSTITUTIONS
EDUCATION
SUMMER
SOCIAL AGENCIES
1966
CENTER FOR COOPERATIVE ACTION IN URBAN EDUCATION
PLANNING GRANT 1966 - 67
DIRECTOR
STAFF
CENTER FOR COOPERATIVE ACTION IN URBAN EDUCATION
PROJECT UNIQUE *
I
II
III
IV
V
VI
VII
VIII
IX
X
XI
XII
URBAN - SUBURBAN TRANSFER PLAN
WORLD OF INQUIRY SCHOOL
COMMUNITY RESOURCES COUNCIL
STOREFRONT SCHOOL
HOME ENROLLMENT PLAN
SPAN - Parent Adviser
RISE - College Tutorial
CLEARING HOUSE FOR STUDENT AID
COMMUNITY TEACHER
TEACHER INTERNSHIP
URBAN EDUCATION MAJOR
COMMUNITY MISSIONARIES

mentioning WOIS;

(2) to solicit and collect funds from private and public sources, including foundations, to assure the continued operation of WOIS and other components;

(3) to act as an advisory body to the Rochester Board of Education for the operation of Project Unique;

(4) to cooperate with the Rochester City School District and other school districts to establish schools based on the principles of WOIS;

(5) to aid in the development of inservice programs for school personnel; and

(6) to make educational research data available.[35]

In 1968, Herman Goldberg, William Young, and several staff members began developing strategies to attain a sound financial base for the continuation and eventual institutionalization of Project Unique. They were aware that the general policy of USOE was to fund Title III projects for a three-year period. They were well aware of the grant stipulations for PACE (Projects to Advance Creativity in Education) programs:

> Proposals for long-term projects should indicate methods for phasing out federal support over three-year periods for gradual absorption by local or other funding. Since the intent of PACE is to stimulate and assist in the support of innovative and exemplary programs, the phasing out process is essential in order to conserve federal resources for other promising PACE programs.[36]

The findings indicated that the top leadership in the Rochester area was aware of Project Unique. According to Tamblyn and Brown, "Beyond any doubt, the media of the community have been of invaluable assistance in bringing to the population an awareness of Project Unique." Of the many components of Project Unique, the World of Inquiry School only was sufficiently understood. Half of those interviewed thought that WOIS might even be successful in securing private support. However, "none of the leadership expressed any confidence that sufficient funds could be raised to continue Project Unique at its present level of financial operations."

In their conclusions, Tamblyn and Brown suggested that more participation and more involvement by the top leadership in Rochester was necessary to secure private support. Several persons interviewed stated that "there is little, if any, precedent in the Rochester-Monroe County area for private support of programs that, traditionally, have been the responsibility of government bodies." It was recommended that, prior to launching a fund-raising campaign, an in-depth evaluation of Unique should be done by a committee of qualified representatives of industry, commerce, and professions. Findings should be widely disseminated through a well-planned public relations effort, using the public media and personal involvement by the leaders of Project Unique.

Apparently, prior to the completion of the feasibility study, William Young, Al Mellican, and Raymond Iman developed a formal presentation highlighting the philosophy of Project Unique, its potential for change in urban education, and its role as a model for urban centers. They met with over 100 local businesses and industries with their "travelling road show" to obtain contributions for a fund for Project Unique.

To legally solicit and receive funds, Project Unique had to become a "legal body." Thus, Young suggested to the advisory committee that it should obtain a charter from the New York State Board of Regents. Young worked through the New York State Department of Education to obtain a provisional charter from the Board of Regents. He received particularly useful assistance from Helen Powers, one of the members of the Regents who lived in Rochester, even though she was not personally fully supportive of all of the ideas contained in the Project Unique concept. The Rochester Board of Education also passed a resolution of approval for the incorporation procedure. The core group of the new Board of Trustees of Project Unique, Inc., were formerly members of the Community Resources Council and the Advisory Committee. William Green, an attorney with SYBRON Corporation, was added to the board and became the first board chairman. He was actively involved in soliciting private contributions for Project Unique, Inc. In comparing the charter group of 1969 with the trustees in 1979, only William Pugh, administrator of the World of Inquiry School, is listed with both groups.

Superintendent Goldberg believed that Project Unique "should stand on its own feet."[37] He felt that incorporation would bring added prestige to the organization. This prestige would make it easier to attract important community leaders to serve on the board. In turn, PUI, as a legal body, would raise its own funds from nonpublic sources. Young and Goldberg believed that these funds could then be used to fight for desegregation, to promote activities in a positive way, thus avoiding court suits. In reflecting recently on the role of PUI, Goldberg stated that he did not see it beyond the task at hand. He did not see it as a conduit for new funds to run its own projects.

What is the current role of Project Unique, Incorporated? It appears to this writer that PUI is in a stage of reformation. Its role, objectives, and very purpose are unclear. Should the board redefine its purpose? Should it be terminated? Is there a purpose for PUI today? What are its options?

The current entrepreneurs, Diane Kehoe Burns and Harvey Granite, have been exploring most or all of the following options:

(a) Reformulate a work plan based on one or two particular charter objectives, as adopted in 1969;

(b) Identify new program areas and obtain new funding through proposal development;

(c) Return to role as trustee of WOIS;

(d) Conduct comprehensive self-evaluation to set new general goals--strategic planning approach with broad participation;

(e) "String along" waiting for something to "catch on" and revitalize PUI;

(f) Terminate PUI and close accounts;

(g) Explore with staff members of the Department of Education the various uses of an organizational mechanism such as PUI (nonprofit corporation); data from National Diffusion Network (NOW) may be useful;

(h) Merge with other independent groups to form a stronger coalition for desegregation.

The future of Project Unique, Incorporated, is uncertain. Perhaps, one of these options will successfully bring new life to this project.

The Metropolitan World of Inquiry School (MWOIS), modeled after the original World of Inquiry School, is another important residual effect. It operated from 1973 to 1976. The funding for the school was obtained through the Urban-Suburban Interdistrict Transfer Program (USITP). Initially, it was opened in 1973 with funding obtained through the category of metropolitan area programs. The U. S. Office of Education revised the guidelines eliminating this category a year later. Through various arrangements with regional DHEW officials, the school continued until 1976. Officials of USITP have not abandoned the concept of a metropolitan educational system. The experience of forming a coalition for the Metropolitan World of Inquiry School has led to the formulation of a different set of strategies for similar future projects focusing on a metropolitan approach. A more detailed discussion of this process is contained in a separate case study. The Metropolitan World of Inquiry School is indicated in figure 1 by dashed lines because it was a type I residual, directly traceable to Project Unique, but one that was in effect for a limited period.

Table 16

LIFE CYCLE OF PROJECT UNIQUE

1963-65	*Problem/Issue Identification and Formulation*: Rochester city schools are racially imbalanced. Innovative approaches are needed to reduce racial imbalance and to improve urban education.
1965-67	*Genesis of Project Unique*: Design stage - broad-based community involvement; Summer Community Resources Workshop; USOE approves Title III Planning Grant.
1967-70	*Implementation of Project Unique and Its Nine Components*: USOE approves use of Title III funds for three years at about $1.5 million per year.
1970-74	*Stabilization Period*: Routinization stage. World of Inquiry receives grants from Rockefeller Foundation and the National Science Foundation and wins local school district support.
1974-78	*Dormant Period for Project Unique, Incorporated*: Assists in sponsoring Artists-in-Residence Program for Rochester City School District. CETA funds expand program.
1978-80	*Reformulation Stage and/or Termination of Project Unique, Incorporated*: Kehoe and Granite establish independent administrative structure for PUI. Artists-in-Residence Program continues.

Conclusions and Observations

The study of residual effects of innovation added complexity and realism to our organizational decision-making model. This is a major conclusion of our study.

Examining the residual effects added a significant dimension to our knowledge of the capacity of public organizations to innovate. The longitudinal, historical approach allowed us to examine the long-term consequences of two large-scale innnovations: the Campus Plan in Syracuse and Project Unique in Rochester. Viewing each as a "project," The Campus Plan can be characterized as an unsuccessful innovation and Project Unique as successful. A reexamination of residual effects beyond the adoption stage for the Campus Plan and beyond incorporation for Project Unique presents a somewhat different picture. The Campus Plan may have died, officially, at the failure to obtain adoption, but its residual effects have had a significant influence on the Syracuse City School District. The Project Unique experience in Rochester has had mixed effects in the long run. The apparent failure of the Campus Plan may have had greater long-term benefits for Syracuse than the apparent success of Project Unique in Rochester.

Is the process by which the staff of the Special Programs Office gained its expertise transferable to other districts? The experiences shared by the staff members over a two-year period of planning and designing the Campus Plan may be unique. They met with a variety of consultants, attended seminars on "educational innovations," participated in a special "brainstorming" conference, and attended numerous planning meetings. In effect, all of these participants were evaluating where the district had been and where it would go in the future. How often does a district go through such an intensive self-evaluation? It was time to revitalize the City of Syracuse, and they felt that they needed exciting solutions to the problems of urban education. The result of this two-year experience in joint planning and decision-making was the Campus Plan, a whole greater than the sum of its parts. It appears difficult to be able to transfer the experience of the time, even though one could transfer the mechanism of a special programs office. A possible approach might be to carefully design a short-term, highly intensive planning and evaluation process over a summer, prior to establishing a similar mechanism in another school district.

VI. SUMMARY AND CONCLUSIONS

Based on our ten case histories of educational innovation in Syracuse and Rochester, we can draw a set of conclusions concerning the local educational organization as an innovative mechanism; bureaucratic entrepreneurship and coalition-building within education; the applicability of our decision-making model to education; how educational innovation in Syracuse compares with that in Rochester; and the residual effects of innovation.

The Local Educational Organization and Educational Innovation

We have noted that the following special characteristics of the local educational organization have particular relevance for educational innovation:

1. The local educational organization is highly decentralized, with many centers of power. The district office, the local board of education, other administrative offices, and individual schools each exercise a degree of power within the local educational organization.

2. Each of these centers of power are semiautonomous. There is a distinct lack of hierarchy within the local educational organization.

3. The local educational organization is composed of highly professionalized individuals. Both teachers and administrators (who are frequently former teachers) view themselves as highly trained professionals with a keen interest in what takes place, particularly in the way of educational innovations, within the educational organization.

4. The local educational organization--the school district--frequently has boundaries which coincide with those of a large or medium-sized city, or perhaps a county. Thus the local educational organization is large.

5. The local public educational organization has a virtual monopoly over the local educational function within its boundaries.

6. In comparison to other urban functions, decision-making within the local educational organization is highly participatory.

7. In a manner unlike other urban functions, the local educational organization must be politically accountable--to its board of education, to its clients (parents and students), and to the

community at large.

8. Local educational organizations are extremely dependent upon other governmental units. Because the local educational organization is frequently the target of state and local regulations, and because the organization must also depend on these outside sources for funding of certain of its programs, there is an enormous intergovernmental dependency within the local educational organization.

9. The local educational organization operates within an annual, consistent, "natural" deadline when making decisions--particularly innovation decisions. This natural deadline is the start of the school term.

We have also noted that the character of local educational innovation depends primarily on the following factors:

1. The nature of the particular innovation: its scope, complexity, cost, and controversiality;

2. The personal characteristics of the individual(s) or group that assumes the role of innovation advocate, or "entrepreneur";

3. The availability of outside funding for the innovation; and

4. The breadth of participation allowed in the decision-making process regarding innovation.

These characteristics of the local educational organization, when combined with the factors upon which local educational innovation depend, act in such a way as to allow us to draw the following conclusions about entrepreneurship, coalition-building, and the decision-making process with respect to educational innovation.

The Educational Entrepreneur and Coalition-Building

1. Educational organizations contain multiple power centers, each consisting of professionals with a keen interest in innovation. Thus in attempting to implement an innovation, the educational entrepreneur must seek to satisfy and to incorporate within the innovation coalition, certain of those professionals. However, because educational organizations are also politically accountable to their clients (parents and students) and to the community as a whole, those interests must be incorporated into the coalition as well. Given these structural constraints, the nature of the innovation is highly associated with the patterns of entrepreneurship and coalition-building which develop around the innovation. The complexity, cost, scope, and controversiality of the innovation are primary determinants of the level at

which entrepreneurship emerges and often the degree of participation within the innovation coalition. Costly, comprehensive, complex, controversial innovations tend to require the force of the office of district superintendent, either as primary or secondary entrepreneur; and participation within the innovation coalition appears to require limitation at early stages and very broad participation at later stages. The early stages of awareness and adoption can be facilitated by limited participation in these sorts of innovations. Hard decisions such as complex, costly, controversial innovations demand can perhaps be made better in a less participatory atmosphere. The later stages of implementation and incorporation can be more easily thwarted by active opposition, however, and it is in these later stages that participation is best expanded, at least to the clients concerned.

2. The decentralization of the educational organization and the professional status of its members allows for innovative ideas to emerge from multiple sources. Thus, awareness of the need for or opportunity for a particular innovation can emerge from the superintendent, middle or lower level administrators, principals, instructors, or, in certain cases, from clients themselves.

3. The same factors which make for multiple sources of innovation--decentralization and professionalism--also make for multiple chances for opposition to innovation to arise within the innovation coalition. In particular, there is always the chance that professionals and interested clients will oppose one another.

4. Because of the many semiautonomous power centers within the educational organization, and the organization's political accountability, the educational entrepreneur must "match" the organization with the innovation and the innovation with the setting several times over. As the innovation progresses through the stages of decision-making, the entrepreneur is called upon to change tactics and modify the innovation in order to effectuate that appropriate match.

5. Because of the conditions described in # 4 above, entrepreneurs can therefore change from stage to stage of the innovation decision-making process.

6. Since there are multiple sources for innovation within the educational organization, educational entrepreneurs can emerge at several different levels. Most often, they emerge from the middle or lower levels of administration, with higher levels (superintendents) only becoming involved in certain kinds of innovations. Instructors play the role of entrepreneur when the the innovation involves a very specialized knowledge or skill

which a particular instructor possesses, just as principals arise as entrepreneurs when the innovation is building-specific, confined to one particular school.

7. The professional status of members within the educational organization renders them highly interested in potential new changes in educational curriculum, equipment, managerial innovations, etc. This professionalism not only leads to multiple sources of educational entrepreneurship, but it also means that educational entrepreneurs frequently have "pet" innovations in which they are keenly interested, and they may wait years for the opportunity to implement those innovations. The opportunity often comes in the form of a federal or state mandate for change in a direction consistent with that innovation or in the form of federal or state money earmarked for such an innovation.

8. Because the educational organization is politically accountable, the most difficult task the entrepreneur has is to allow a sufficient amount of participation in the innovation decision process to avoid heavy opposition from clients on grounds of secrecy. However, participation also has its risks. The entrepreneur must also decide when participation must be limited so that decisive action can take place. In a sense, the problem of the entrepreneur is also the problem of democracy: how much participation is enough? how much is too much?

The Decision-Making Model

9. The educational organization has both the benefit and the burden of having a "natural" deadline in all its decision-making activities--particularly those with respect to innovation. The deadline of the start of a school term can help innovations to be "pushed through" despite potential heavy opposition and can be used to explain the necessity of limiting participation within the innovation decision. However, the same deadline can also kill an innovation by not allowing the entrepreneur sufficient time to "sell" the innovation and to properly organize the support coalition for it.

10. There is some evidence that educational organizations are beginning to "institutionalize" innovations through district offices whose purpose is to assist in proposal writing and overseeing of innovations within the district. Perhaps this trend is the natural outgrowth of the organization's professionalism and the increasing legal demands placed on the local organization for changes in one direction or another.

11. There is also some evidence that innovations from above, or mandated innovations, have certain characteristics in common which differentiate their decision-making process from

innovations that are triggered from below. Since the question of whether or not to innovate is a moot point in mandated innovations, decision-making revolves around the appropriate method by which to innovate in the direction of mandated compliance. Thus, while the big question in mandated innovations is not whether to change, but how to change, innovations which emerge from below must face the more basic question of whether any change is desirable or not. The decision-making processes of the two types of innovations seem to vary slightly as a result of this difference in the central question.

12. Because of increased legal pressure on local educational organizations to change their programs in some way, and because of increased competition within the organization for funds; federal and state funding has become critically important for local educational innovation. The decision-making process itself is highly affected, for funding is often the crucial determinant of whether or not the innovation is propelled through the various stages of innovation.

13. Because of the many coalition elements which must be brought into consensus in order for innovations to be adopted and implemented, and because innovations must also frequently be made acceptable to outside funding sources, constant modifications of the original innovation must be made in going from awareness to incorporation. In a very real sense, the innovation must frequently be "reinvented" several times over in order for the original idea behind the innovation to survive.

Residual Effects of Innovation

14. Individual innovation packages may be unsuccessfully implemented or incorporated within a school district, but there may be profound residual effects on the district from the planning, entrepreneurial, and coalition-building efforts which surrounded them. In fact, the residual effects of an unsuccessful innovation can be more significant than the residual effects of a successful innovation. This situation may be reason enough to prompt a modified definition of innovation "success."

15. One important residual effect of even an unsuccessful innovation can be the intense self-examination or self-evaluation a district can go through in the process of attempting to implement a major educational innovation package.

16. Certain large-scale innovations can prompt the institutionalization of a special office or branch of the district designed to deal with major educational innovations. To the extent that such an innovation helps to establish and develop the skills and capabilities of such an office, that innovation, even if itself unsuccessful, can significantly raise the local organization's capability to innovate in the future.

NOTES

1. *See* James S. Coleman and Sara D. Kelly, "Education," William Gorham and Nathan Glazer, eds., *The Urban Predicament* (Washington, DC: The Urban Institute, 1976); *see also* C. E. Silberman, *Crisis in the Classroom* (New York: Random House, 1971).

2. A. G. Oettinger, *Run, Computer, Run* (Cambridge, MA: Harvard University Press, 1969).

3. Fred M. Hechniger, "Where Have All the Innovations Gone?" *New York Times*, November 16, 1975.

4. Important sources for current theory on educational innovations include: Gerald Gordon, *et al*., "A Contingency Model for the Design of Problem-Solving Research Programs: A Perspective on Diffusion Research," *Health and Society*, 52, pp. 185-226; Ronald G. Havelock, *The Change Agent's Guide to Innovation in Education* (Englewood Cliffs, NJ: Educational Technology Publications, 1973); Neal Gross, Joseph B. Giacquinta, and Marilyn Bernstein, *Implementing Organizational Innovations: A Sociological Analysis of Planned Educational Change* (New York: Basic Books, Inc., 1971); J. Victor Baldridge, "Political and Structural Protection of Educational Innovations," prepared for a symposium: *What Do Research Findings Say About Getting Innovations into Schools?* Sanford Tomkin, Mary V. Brown, eds. (Research for Better Schools, Inc., Jan. 1974); David L. Clark and Egon Guba, "On Examination of Potential Change Roles in Education," (NEA,Center for Study of Instruction, October 1975); *Federal Programs Supporting Educational Change*, Volumes I-V (Washington, DC: Rand Corporation, April 1975); Everett M. Rogers, John D. Eveland, Constance A. Klepper, *The Innovation Process in Public Organizations: Some Elements of a Preliminary Model*, final report to the National Science Foundation, March 1977. Previous work by Rogers includes: *Diffusion of Innovation* (1962) and *Communication of Innovations: A Cross-Cultural Approach* (1971) with F. Shoemaker.

6. Herbert Simon in *Administrative Behavior* (1976) attributes the transference of the notion of "forming coalitions" from political science to organization theory and economics, with the publication of *The Theory of Games and Economic Behavior* in 1945, by Von Newmann and O. Morgenstern. Anthony Downs views all organizations not as teams, but as coalitions (*Inside Bureaucracy*, 1967). In his theory, a coalition is a group of persons working together who have some but not all goals in common.

6. See for example, W. H. Riker, The Theory of Political Coalitions (New Haven, Conn.: Yale, 1962); W. A. Gamson, "A Theory of Coalition Formation," American Sociological Review, 26 (June 1961), pp. 373-382; S. Grennings, E. W. Kelly, and M. A. Leisenson, eds., The Study of Coalition Behavior: Theoretical Perspectives and Cases from Four Continents (New York: Hall, Rinehart, and Winston, 1970).

7. Roland L. Warren, Stephen M. Rose, and Ann F. Bergunder, The Structure of Urban Reform (Lexington, MA: Lexington Books, 1974).

8. W. Henry Lambright, et al., Adoption and Utilization of Urban Technology: A Decision-Making Study. Report to the National Science Foundation by the Syracuse Research Corporation, September 1977.

9. W. Henry Lambright and Paul J. Flynn, "Bureaucratic Politics and Technological Change in Local Government," Urban Analysis, Volume 4, 1977, pp. 93-118.

10. Ibid.

11. Francis E. Rourke, "Variations in Agency Power," in Francis E. Rourke, ed., Bureaucratic Power in National Politics, 2nd edition (Boston, MA: Little, Brown, and Company, 1972).

12. Lambright and Flynn, op. cit.

13. Karl Weick, "Educational Organizations as Loosely Coupled Systems," Administrative Science Quarterly, Volume 21, March 1976, pp. 1-19. "Loosely coupled systems" refers to separate autonomous units that are responsive and share some activities. The teacher-classroom-pupil system is only loosely coupled to the superintendent administrative system. Subunits retain more autonomy in educational organizations than do most subunits in other governmental bureaucracies.

14. Matthew F. Tuite, "Toward a Theory of Joint Decision-Making," in Interorganizational Decision-Making by M. Tuite, R. Chisholm, and M. Radnor, eds. (Chicago, IL: Aldine Publishing Company, 1972); see also Richard E. Walton, "Theory of Conflict in Lateral Organizational Relationships," in J. R. Lawrence, ed., Operational Research and the Social Sciences (London: Tavistock Publishers, 1966).

15. For a discussion of the effects of the characteristics of innovation on the process of innovation, see Lambright, et al., Adoption and Utilization of Urban Technology, op. cit., chapter IV.

16. Anthony Downs, Inside Bureaucracy (Boston, MA: Little, Brown, and Company, 1967), p. 191.

17. Jeffrey L. Pressman and Aaron B. Wildavsky, Implementation (Berkeley, CA: University of California Press, 1973).

18. Lambright, et al., op. cit., pp. 190-91.

19. Ronald G. Havelock, The Change Agent's Guide to Innovation in Education, op. cit.

20. Karl Weick, "Educational Organizations as Loosely Coupled Systems," op. cit.

21. Robert K. Yin, et al., Changing Urban Bureaucracies: How New Practices Become Routinized. Report to the National Science Foundation by the Rand Corporation, March 1978. (R-2277-NSF)

22. Herbert Kaufman, "Why Change Is Dampened," The Limits of Organizational Change (University, Alabama: The University of Alabama Press, 1971), chapter 3.

23. Samuel H. Beer, "Modernization of American Federalism," Publius, Volume 3, No. 2, Fall 1973, pp. 49-95. Beer calls this phenomenon "technocratic federalism." See also Paul J. Flynn, et al., "Vertical Coalitions for Technology Transfer: Toward an Understanding of Intergovernmental Technology," Publius.(forthcoming).

24. Hubert W. Blalock, Causal Models in the Social Sciences (Hawthorne, NY: Aldine, 1971).

25. Roscoe C. Martin, Frank J. Munger, et al., Decisions in Syracuse, Anchor Edition (Garden City, NY: Doubleday, 1965).

26. League of Women Voters of the Syracuse Metropolitan Area, Patterns of Government in Onondaga County (Syracuse, NY, 1970), p. 12.

27. Center for Governmental Research, Inc., The Governance of Rochester, a staff report to the Rochester Charter Commission, May 1973.

28. The mayor is a member of the council and is elected by a majority vote of the council. Five members of the council are elected at-large, and four represent districts.

29. Center for Governmental Research, Inc., op. cit., p. 39.

30. Martin, et al., Decisions in Syracuse, op. cit.

31. "Syracuse City School District Form," March 1978.

32. William Young, Project Unique: Summary of Evaluation, 1969-70. Prepared for USDHEW, Office of Education, July 1970.

34. Financial Implications of the Campus Plan, Syracuse, N.Y., September 1968, p. 38.

35. Summarized from the "Provisional Charter Granted by the New York State Board of Regents to Project Unique," September 26, 1969.

36. Manual for Project Applicants 'Grant Considerations,' USDHEW, Office of Education, p. 9.

37. Interview, August 2, 1979, with H. Goldberg, now serving as Associate Commissioner, Bureau of Elementary and Secondary Education, U. S. Department of Education.